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INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume V - Common Data Model Subsystem
Part 22 - Neutral Data Manipulation Language (NDML) Precompiler Build Calls and Messages Product Specification

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This specification establishes the design of Function PRE10, "Build Calls Message into the Users AP", one of the major functions of the Configuration Item "Precompiler" to be built and formally accepted by the ICAM Program office.

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FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

SUBCONTRACTOR	ROLE
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.
Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface,and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

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SECTION 1

SCOPE

1.1 Identification

This specification establishes the design of Function PRE10, "Build Calls Messages into the Users AP", one of the major functions of the Configuration Item "Precompiler" to be built and formally accepted by the ICAM Program Office. This CI constitutes one of the subsystems of the Common Data Model Processor (CDMP).

1.2 Functional Summary

The purpose of this Computer Program Configuration Item (CPCI) is to generate into the User Application process code to assemble tables and parameters needed by both the Distributed Request Supervisor and conceptual to external transformer to satisfy an NDML request.

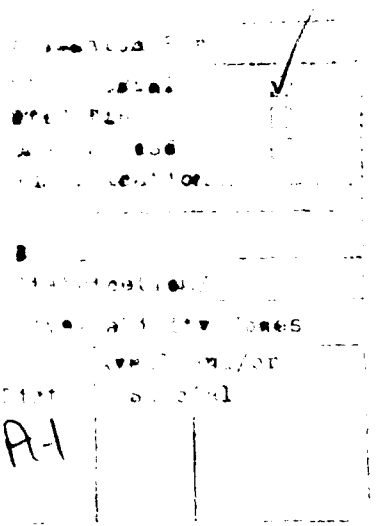
The following functions will be performed by the CPCI:

1. Generate working storage for external schema variables to hold the ES results in the user specified structure or variables, and temporary conceptual schema variables necessary for the transformation.

2. Generate working storage variables to hold the precompile tables namely the Join Query Graph, Attribute Pair List, results table and conceptual schema Action List to satisfy the NDML request.

3. Generate Working Storage and Procedure Division statements for domain and assertion checks.

4. Generate Procedure Division statements to call the DRS, return with the results and call the conceptual to external transformer and move the ES results into the user variables or structure.



SECTION 2

DOCUMENTS

2.1 Reference Documents

1. ICAM Documentation Standards: IDS15012000A, 28 December 1981.

2. D. Appleton Co., CDM Administrators Manual: UM620141000, March, 1984.

3. D. Appleton Co., CDM1-IDEF, Model of the Common Data Model: CCS620141000, 15 May, 1985.

4. D. Appleton Co., Computer Program Development Specification (DS) for ICAM Integrated Support System (IISS) Configuration Item: NDML Precompiler: DS620141200, October, 1984

5. D. Appleton Co., Embedded NDML Programmers Reference Manual: PRM620141200, March, 1985

6. Softech, Inc., NTM Programmers Guide: UM620140001, July 1984.

7. Control Data Corp., Computer Program Development Specification (DS) for ICAM Integrated Support System (IISS) Configuration Item: NDDL Command Processor: DS620141100, June 1985.

2.2 Terms and Abbreviations

Attribute Use Class: (AUC)

Conceptual Schema: (CS)

Common Data Model Processor: (CDMP)

Common Data Model: (CDM) Describes common data application process formats, form definitions, etc, of the IISS and includes conceptual schema, external, internal schemas, and schema transformation operators.

Data Field: (DF) An element of data in the external schema. It is by this name that an NDML programmer references data.

Database Management System: (DBMS)

Distributed Request Supervisor: (DRS) This IISS CDM subsystem configuration item controls the execution of distributed NDML queries and non distributed updates.

Domain: A logical definition of legal attribute class values.

Domain Constraint: Predicate that applies to a single domain.

External Schema: (ES)

Forms: Structured views which may be imposed on windows or other forms. A form is composed of fields where each field is a form, item, or window.

Forms Processor: (FP) A set of callable execution time routines available to an application program for form processing.

Internal Schema: (IS)

Integrated Information Support System: (IISS) A test computing environment used to investigate, demonstrate and test the concepts of information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous databases supported by heterogeneous computers interconnected via a local Area Network.

Mapping: The correspondence of independent objects in two schemas: ES to CS or CS to IS.

Network Transaction Manager: (NTM) Performs the coordination, communication and housekeeping functions required to integrate the application processes and system services resident on the various hosts into a cohesive system.

Neutral Data Manipulation Language: (NDML) A language developed by the IISS project to provide uniform access to common data, regardless of database manager or distribution criteria. It provides distributed retrieved and single node updates.

ORACLE: Relational DBMS based on the SQL (Structured Query Language, a product of ORACLE Corp, Menlo Park, CA). The CDM is an ORACLE database.

Parcel: A sequential file containing sections of source code of the input Application Program.

Request Processor: (RP) A COBOL program that will satisfy a retrieval or update NDML subtransaction against a particular Database Management System.

User Interface: (UI) Controls the user's terminal and interfaces with the rest of the system.

Virtual Terminal Interface: (VTI) Performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by UI software which constitutes the Virtual

Terminal Definition. Specific terminals are then mapped against the Virtual Terminal software by specific software modules written for each type of real terminal supported.

SECTION 3

REQUIREMENTS

3.1 Structural Description

The graphic portrayal of this CPCI is included in Section 3.10. This chart shows the hierarchical relationship of each module making up this CPCI.

This CPCI is identified as module CP10 and uses a number of lower level modules to handle specific operations such as:

1. Generate working storage for data definitions for Delete, Modify and Qualify data values (CDECWS).

2. Generate working storage for data definitions for insert values (CDP10E).

3. Generate working storage variables to hold ES results (CDP10F).

4. Generate the precompile tables needed by the Distributed Request. Supervisor (DRS) into the Users AP, and Procedure division statements to move the results (CDP10B).

5. Generate the Working Storage and Procedure Division statements to perform domain and assertion verification (CDCONS).

6. Generate Procedure Division statements for transforming the external to conceptual and, if necessary, generate working storage if an algorithm was required to do the transformation (CDEC).

7. Control the processing logic to call routines to transform Working Storage and Procedure Division statements from conceptual to external (CDP10A).

8. Generate the final ES Results into user specified structure, variables or a file.

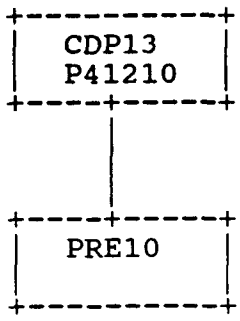
3.2 Functional Flow

This CPCI implemented the logic defined in the Development Specification for this CPCI. Details of inputs/outputs and relationships between modules are found in Section 3.10.

This CPCI has been designated to operate in a batch or interactive mode. It must operate in the system environment established for IISS; that is, the Network Transaction Manager. It currently can only be executed on the DEC VAX due to the dependence on the VAX sort although this can be changed for execution on the IBM.

3.3 Interfaces

The following diagram depicts the interface of this CPCI, PRE10 with other CPCI's in the system.



3.3.1 Inputs/Outputs

The following table depicts the inputs and outputs of this CPCI. A detailed description for each item can be found in the DS for this CPCI.

FUNCTION: PRE10

INPUT	OUTPUT
External Schema Action List	Module Status
External Schema Qualify List	
Conceptual Schema Action List	
Conceptual Schema Qualify List	
Internal Schema Action List	
Internal Schema Qualify List	
Join Query Graph	
JQG Attribute Pair List	
Results Field Table	
Subtrans Process ID table	
Code Generator Table	
IDFile Name	
FDFile Name	
Working Storage File Name	
Procedure Division File Name	
Error File	
CS-ES Mod Name	
CS-CS Mod Name	
Source Language	
Block Stack	
Logical Unit of Work	
First Inner Select Indicator	
Fortran Variable Table	
Target Host	
Embedded Language	
Cursor Table	
Whenever Table	
User View Abbreviation List	

3.4 Program Interrupts

Not applicable to the CPCI.

3.5 Timing and Sequencing Description

This CPCI is called for each NDML statement to generate calls to the Distributed Request Supervisor and/or Conceptual to External transformer, so the results may be returned in the manner the user specified.

3.6 Special Control Features

Not applicable to this CPCI.

3.7 Storage Allocation

3.7.1 Database Definition

The database used by this CPCI is the Common Data Model (CDM) database. The model is defined by the CDM1, the IDEF-1 model of the CDM, Reference Document Number 3.

3.7.1.1 File Description

No permanent files have been defined for this CPCI. It may use temporary scratch files for such things a input and results.

3.7.1.2 Table Description

All tables used by this CPCI have been defined by the Development Specification for this CPCI.

3.7.1.3 Item Description

Not applicable to this CPCI.

3.8 Object Code Creation

The object code for this CPCI will be created by the system integration team using defined IISS Software Configuration Management Procedures. This CPCI will use the COBOL, FORTRAN, and C language compilers.

3.9 Adaptation Data

This CPCI has been coded using ANSI COBOL language. The intent was to provide a transportable system. Any system environment supporting this language, a virtual memory management schema, the COMM and NTM subsystems of IISS and the ORACLE Database Management System should be able to support this CPCI. Every possible attempt has been made to localize and identify any machine or environment dependent modules through the original design of the IISS and application of Configuration Management Procedures.

3.10 Detail Design Description

The following sections have been computer generated for this CPCI.

3.10.1 Where Include File Used List

The following lists each include file in the documentation group and all the modules documented in this specification which include them. The purpose of each module is listed as well.

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
ERRCDM	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCDQ
	CDCONS
	CDCREFO
	CDCRIT
	CDEC
	CDECWS
	CDELIS
	CDERC
	CDGETOF
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDP10S
	CDP10T
	CDPR7SL
	CDUEMV
	CDVERLW
	CDZDEL
	COLCHK
	COMPKEY
	CURLCNT

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	NKOATT
	P5INATT
	P5XREF
	PROCVAR
	PROEXEC
	ROJCHK
	ROJFLD
	SQLFILE
ERRFS	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCONS
	CDCRIT
	CDEC
	CDECWS
	CDELIS
	CDERC
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDP10S
	CDP10T
	CDPR7SL
	CDUEMV

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CDZDEL
	COMPKEY
	NKOATT
	ROJCHK
	ROJFLD
EOD	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
TXLIST	
	CD2NEC
	CDAUC
	CDCDQ
	CDCRIT

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
ESAL	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDECWS
	CDP10
	CDP10A
	CDP10C
	CDP10E
	CDP10F
	CDP10T
	CDUEMV
	CDZDEL
ESQUAL	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDECWS
	CDP10
	CDP10A
	CDUEMV
	CDZDEL
UVABBR	

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDP10A
	CDZDEL
	COLCHK
CGTABLE	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDP10A
	CDP10T
	CDZDEL
APL	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CDP10
	CDP10B
	CDP10S
	CDZDEL
RFTABLE	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDP10B
	CDP10S
	CDZDEL
BLSTACK	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDP10T
	CDZDEL
FORVAR	
	CD2NEC
	CD2SEL
	CDARIT

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CDASEL
	CDAUC
	CDCDQ
	CDCONS
	CDCREFO
	CDCRIT
	CDEC
	CDECWS
	CDGETOF
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDP10S
	CDP10T
	CDUEMV
	CDZDEL
CSAL	
	CD2NEC
	CDARIT
	CDAUC
	CDCDQ
	CDCONS
	CDCRIT
	CDECWS
	CDP10
	CDP10A
	CDP10B
	CDP10F

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CDP10S
	CDP10T
	CDUEMV
	CDZDEL
CSQUAL	
	CD2NEC
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCONS
	CDCRIT
	CDECWS
	CDP10
	CDP10A
	CDUEMV
CURTAB	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDECWS
	CDP10
	CDP10A
	CDP10F
	CDP10T
	CDZDEL
WHENTAB	

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDZDEL
ERRPRO	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCDQ
	CDCONS
	CDCREFO
	CDCRIT
	CDEC
	CDECWS
	CDELIS
	CDERC
	CDGETOF
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CDP10S
	CDP10T
	CDPR7SL
	CDUEMV
	CDVERLW
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
CSALX	
	CD2SEL
	CDASEL
CSQUALX	
	CD2SEL
	CDZDEL
TYP2TB	
	CD2SEL
	CDELIS
CSQVAR	
	CD2SEL
	CDASEL
	CDZDEL
BOOLST	
	CD2SEL
	CDARIT
	CDASEL
	CDAUC

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CDCDQ
	CDZDEL
SBSTLST	
	CDCONS
	CDP10
	CDP10A
	CDP10B
	CDP10S
	CDP10T
LANGNO	
	CDCONS
	CDEC
	CDECWS
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDUEMV
MACCALL	
	CDCONS
	CDP10
	CDP10B
	CDP10S
	CDP10T
CHKCDM	
	CDCREFO
	CDGETOF
	CDP10
	CDP10B

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
	CDP10S
	CDP10T
	CDPR7SL
	CDVERLW
	P5INATT
	ROJFLD
ESREC	
	CDECWS
DELCAT	
	CDELIS
	CDERC
	CDZDEL
ISAL	
	CDP10
	CDP10A
	CDP10B
ISQUAL	
	CDP10
	CDP10A
JQGTBL	
	CDP10
	CDP10B
SUBPROC	
	CDP10
	CDP10A
P5COMKY	
	COMPKEY
P5NKATT	
	NKOATT
P5DFS	
	P5XREF

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
P5ECINF	
	ROJCHK
P5ROJ	
	ROJCHK
	ROJFLD
TOKSTRT	
	CURLCNT
	PROCVAR
PCOMM	
	CURLCNT
	PROCVAR

3.10.2 Where External Routine Used List

The following lists each external function or routine in the documentation group and all the documented modules which call it. The purpose of each module is listed as well.

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
SQLSCA	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLBS1	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLSCH	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	ROJFLD
SQLSCC	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLTOC	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDCONS
	CDEC
	CDELIS
	CDERC

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5XREF
	ROJCHK
	ROJFLD
SQLOSQ	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLADR	
	CD2NEC

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLAB1	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLEXE	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLCLS	

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDCONS
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COMPKEY
	NKOATT
	P5XREF
	ROJCHK
	ROJFLD
SQLAD1	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLFCH	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
ERRPRO	
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	CDAUC
	CDCAT
	CDCDQ
	CDCONS
	CDCREFO
	CDCRIT
	CDEC
	CDECWS
	CDELIS
	CDERC
	CDGETOF
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDP10S
	CDP10T
	CDPR7SL
	CDUEMV
	CDVERLW
	CDZDEL
	COLCHK
	COMPKEY
	CURLCNT
	NKOATT
	P5INATT
	P5XREF
	PROCVAR
	PROEXEC

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	ROJCHK
	ROJFLD
	SQLFILE
CDPRE5	
	CD2SEL
	CDARIT
	CDASEL
	CDCDQ
	CDZDEL
CDCMD	
	CD2SEL
	CDARIT
	CDASEL
	CDCDQ
	CDZDEL
CDMQAL	
	CD2SEL
	CDARIT
	CDASEL
	CDCDQ
	CDZDEL
CDPBL	
	CD2SEL
	CDARIT
	CDASEL
	CDCDQ
	CDZDEL
SQLTFL	
	CDAUC
	CDCAT
	CDCRIT

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	CDEC
	P5INATT
SQLOPN	
	CDAUC
	CDCAT
	CDCRIT
	CDEC
	P5INATT
CDGTN	
	CDCONS
	CDP10
OUTFIL	
	CDCONS
	CDEC
	CDECWS
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDP10S
	CDP10T
	CDUEMV
	CURLCNT
	PROCVAR
	PROEXEC
	SQLFILE
RPTERR	
	CDCONS
	CDP10

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
	CDP10T
	CDPR7SL
	COLCHK
	COMPKEY
	NKOATT
	PROCVAR
	ROJCHK
	ROJFLD
CDMACR	
	CDCONS
	CDP10
	CDP10B
	CDP10S
	CDP10T
CDPIC	
	CDEC
	CDECWS
	CDP10E
	CDP10F
CDF1RP	
	CDP10A
APNAME	
	CDP10T
CDPRE8	
	CDP10T
CDLKLUW	
	CDVERLW
CDINSLW	
	CDVERLW
CDORCSP	
	CDDBMSS

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
CDINGSP	
	CDDBMSS
INPFIL	
	CURLCNT
	PROCVAR
	PROEXEC
	SQLFILE
STRNCMP	
	CURLCNT
	PROCVAR
	PROEXEC
	SQLFILE
STRNCPY	
	CURLCNT
	PROCVAR
	PROEXEC
	SQLFILE
STRCPY	
	CURLCNT
	PROCVAR
	PROEXEC
	SQLFILE
SSCANF	
	CURLCNT
	PROCVAR
UNPLINE	
	PROCVAR
SPRINTF	
	PROCVAR

3.10.3 Main Program Parts List

The following lists each Main Program in the documentation group and all the modules which are called either by that module itself or by any of the documented modules which it calls. It is possible for a non-main module to be listed more that once if it is called by multiple modules. The called modules, in this case known as program parts, are marked as to whether they are documented here. If so, the phrase "well-defined module" appears by the module name, if not it is an "external "routine". The Purpose of the Main Program module is listed as well.

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
CD2NEC		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	CDCDQ	Well-defined module
	ERRPRO	External routine
CD2SEL		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	CDPRE5	External routine
	CDCMD	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	CDMQAL	External routine
	CDPBL	External routine
CDARIT		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	CDPRE5	External routine
	CDCMD	External routine
	CDMQAL	External routine
	CDPBL	External routine
CDASEL		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	CDPRE5	External routine
	CDCMD	External routine
	CDMQAL	External routine
	CDPBL	External routine
CDAUC		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
	CDARIT	External routine
CDCAT		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
CDCDQ		
	ERRPRO	External routine
	CDPRE5	External routine
	CDCMD	External routine
	CDMQAL	External routine
	CDPBL	External routine
CDCONS		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	CDGTN	External routine
	OUTFIL	External routine
	RPTERR	External routine
	CDGETOF	Well-defined module
	CDMACR	External routine
CDCREFO		

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	ERRPRO	External routine
CDCRIT		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	CDCDQ	External routine
	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
CDDBMSS		
	CDORCSP	External routine
	CDINGSP	External routine
CDEC		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	SQLFCH	External routine
	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
	OUTFIL	External routine
	CDGETOF	Well-defined module
	CDPIC	External routine
	CDCREFO	External routine
CDECWS		
	ERRPRO	External routine
	OUTFIL	External rcutine
	CDGETOF	Well-defined module
	CDPIC	External routine
	CDCREFO	External routine
CDELIS		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
CDERC		
	SQLSCA	External routine
	SQLBS1	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
CDGETOF		
	ERRPRO	External routine
CDP10		
	ERRPRO	External routine
	CDGTN	External routine
	OUTFIL	External routine
	RPTERR	External routine
	CDGETOF	External routine
	CDMACR	External routine
	CDCREFO	External routine
	CDP10A	Well-defined module
	CDP10B	Well-defined module
	CDP10E	Well-defined module
	CDP10C	Well-defined module
	CDP10F	Well-defined module
	CDP10S	Well-defined module
	CDCONS	External routine
CDP10A		
	ERRPRO	External routine
	OUTFIL	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	CDGETOF	External routine
	CDCREFO	External routine
	CDECWS	External routine
	CDUEMV	Well-defined module
	CDF1RP	External routine
	CDEC	External routine
CDP10B		
	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	External routine
	CDMACR	External routine
	CDCREFO	External routine
CDP10C		
	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	External routine
	CDCREFO	External routine
CDP10E		
	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	External routine
	CDPIC	External routine
	CDCREFO	External routine
CDP10F		
	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	External routine
	CDPIC	External routine
	CDCREFO	External routine
CDP10S		
	ERRPRO	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	OUTFIL	External routine
	CDGETOF	External routine
	CDMACR	External routine
	CDCREFO	External routine
CDP10T		
	ERRPRO	External routine
	OUTFIL	External routine
	RPTERR	External routine
	CDGETOF	External routine
	CDMACR	External routine
	CDCREFO	External routine
	CDP10C	External routine
	CDP10F	External routine
	APNAME	External routine
	CDPRE8	External routine
CDPR7SL		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
CDSDATE		

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
CDUEMV		
	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	External routine
	CDCREFO	External routine
CDVERLW		
	ERRPRO	External routine
	CDLKLUW	External routine
	CDINSLW	External routine
	CDDBMSS	External routine
CDZDEL		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	CDPRE5	External routine
	CDCMD	External routine
	CDMQAL	External routine
	CDPBL	External routine
COLCHK		
	SQLSCA	External routine
	SQLBS1	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
COMPKEY		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
CURLCNT		
	ERRPRO	External routine
	OUTFIL	External routine
	INPFIL	External routine
	STRNCMP	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	PROCVAR	Well-defined module
	PROEXEC	Well-defined module
	STRNCPY	External routine
	STRCPY	External routine
	SSCANF	External routine
NKOATT		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
P5INATT		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLAD1	External routine
	SQLFCH	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
P5XREF		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
PROCVAR		
	ERRPRO	External routine
	OUTFIL	External routine
	RPTERR	External routine
	INPFIL	External routine
	STRNCMP	External routine
	PROEXEC	Well-defined module
	STRNCPY	External routine
	STRCPY	External routine
	SSCANF	External routine
	UNPLINE	External routine
	SPRINTF	External routine
PROEXEC		
	ERRPRC	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	OUTFIL	External routine
	INPFIL	External routine
	STRNCMP	External routine
	STRNCPY	External routine
	STRCPY	External routine
ROJCHK		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
ROJFLD		
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine

DOCGROUI PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
SQLFILE		
	ERRPRO	External routine
	OUTFIL	External routine
	INPFIL	External routine
	STRNCMP	External routine
	STRNCPY	External routine
	STRCPY	External routine

3.10.4 Module Documentation

The following documentation describes information which is specific to each individual module in the documentation group being documented in this specification. It provides a compact way of getting information that would be otherwise buried within each module's source code.

The specific items in this module documentation have the following meanings:

NAME: Name of program Module.

PURPOSE: Purpose of Module as detailed in the source code.

LANGUAGE: Programming language source code is written in.
The choices are:
VAX-11 FORTRAN
C (I/S-1 Workbench 'C')
VAX-11 COBOL

MODULE TYPE: Whether a Program, Subroutine, or Function.

SOURCE FILE: Name of Source File from file specification.

SOURCE FILE TYPE: Source File Extension from file specification.

HOST: Whether this is a host-dependent routine (VAX or IBM) or blank if host-independent.

SUBSYSTEM:	IISS sub-system this file resides in.
SUBDIRECTORY:	Sub-directory of that subsystem in which this file resides.
DOCUMENTATION GROUP:	Name of documentation group of which this source file is a member.
DESCRIPTION:	A description of the modu as otained from the source code.
ARGUMENTS:	The arguments with which this routine is called if it is a Subroutine or a Function.
INCLUDE FILES:	A list of all the files that are included into this module as well as their purposes.
ROUTINES CALLED:	Subroutines or Functions, either documented or external, called by this module, if any.
CALLED DIRECTLY BY:	The documented routines which call this module, if any.
USED IN MAIN PROGRAM(S):	The documented Main Programs which contain this module in their parts list according to the list in section 3.10.3.

The Module Documentation is arranged alphabetically according to Module Name.

DOCGROUP PS41258 Module Documentation

NAME: CD2NEC
PURPOSE: RETRIEVE IND ENT FOR DEP ENT AND PERFORM TYPE1 REF
INTEG TEST
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CD2NEC
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

NEW ROUTINE TO PERFORM SQL SEARCH OF CATEGORY_RELATION TABLE
TO FIND
INDEPENDENT ENTITY CLASSES. FOR EACH FOUND, CALL CDACAQ TO SET
UP TYPE 1 REFERENTIAL INTEGRITY TEST.
PERFORM SQL SEARCH OF CATEGORY_RELATION TABLE FOR ALL
INDEPENDENT ENTITIES OF TEMP-EC-NO (1). FOR EACH
INDEPENDENT ENTITY FOUND, CALL CDCDQ TO GENERATE
A TYPE 1 REFERENTIAL INTEGRITY TEST.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
TEMP-XFORM-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	
FCB-2	
FCB-3	
FCB-4	
MY-HOST	
TARGET-HOST	
SOURCE-LANGUAGE	
FCB-E	
NDML-COUNTER	
CS-ACTION-LIST	
CS-QUALIFY-LIST	
LUW-NAME	
ERROR-STATUS	
RFT	
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	
FIRST-INNER-SELECT	
FORTRAN-VARIABLE-TABLE	
SUB-LANG	
EMBEDDED-LANGUAGE	
CURSOR-TABLE	
WHENEVER-TABLE	
RET-STATUS	

INCLUDE FILES:

ERRCDM
ERRFS
EOD
TXLIST
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CSAL
CSQUAL
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDCDQ
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CD2SEL
PURPOSE: SETS UP TYPE 2 REFERENTIAL INTEGRITY CHECK FOR
CATEGORY ASSOCIATED L
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CD2SEL
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

FILL IN CS ACTION LIST AND CS-QUALIFY LIST FOR TYPE 2 RI
TEST. USE A CLOSE OF CS-QUALIFY SO AS NOT TO AFFECT USER'S
QUALIFICATIONS. CSQ-VARIABLES WILL DEPEND UPON THE KCMS
SELECTED IN SELECT FOR CASCADE
FOR EACH INDEPENDENT ENTITY OF THE ENTITY TO BE
DELETED, GENERATE A TYPE 2 REFERENTIAL INTEGRITY
TEST BY POPULATING THE CS-ACTION LIST AND ADDING TO
THE CS-QUALIFY AND BOOLEAN LISTS.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
TYPE2-EC	RECRD
CSQ-TAB	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]

SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
CSALX
CSQUALX
TYP2TB
CSQVAR
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CURTAB
WHENTAB
BOOLST
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDPRE5
CDCMD
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDARIT
PURPOSE: SETS UP TYPE 2 REFERENTIAL INTEGRITY CHECK IF
DISCRIMINATOR BEING MO
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDARIT
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

FILL IN CS ACTION LIST AND CS-QUALIFY LIST FOR TYPE 2 RI TEST. ON EXIT, RESET CSQ-USED TO ITS VALUE ON INPUT. FOR EACH INDEPENDENT ENTITY OF THE ENTITY TO BE DELETED, GENERATE A TYPE 2 REFERENTIAL INTEGRITY TEST BY POPULATING THE CS-ACTION LIST AND ADDING TO THE CS-QUALIFY AND BOOLEAN LISTS.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
IND-EC-NO	DSPLY[S9(4)]
IN-RC-NO	DSPLY[S9(4)]
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CSAL
CSQUAL
BOOLST
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDPRE5
CDCMD
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDASEL
PURPOSE: SETS UP SELECT FOR CASCADE
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDASEL
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

FILL IN CS ACTION LIST FOR SELECT FOR CASCADE
ON EXIT, RESET CSQ-USED TO ITS VALUE ON INPUT.
SELECT KCMS FOR TARGET ENTITY AND BUILD
A CS-ACTION LIST FOR EACH ONE SELECTED.
THE CS-QUALIFY WILL BE THE USER'S QUALIFICATIONS.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
IND-EC-NO	DSPLY[S9(4)]
CSQ-TAB	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
CS-QUALIFY-LIST	RECRD
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
CSALX
CSQVAR
ESAL
ESQUAL
UVABBR

CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CURTAB
WHENTAB
CSQUAL
BOOLST
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDPRE5
CDCMD
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDAUC
PURPOSE: IF TEMP-AUC IS DISCRIMINATOR - DO TYPE 2 TO BE SURE
NO DATA
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDAUC
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

PERFORM SQL SEARCH OF CATEGORY_RELATION ON ALL TEMP-AUCS TO
DETERMINE IF THE TAG IS DISCRIMINATOR. IF SO DO TYPE 2 RI.
PERFORM SINGLE-ROW SELECT OF ALL TEMP TAGS TO
CHECK IF IT IS A DISCRIMINATOR FOR CATEGORY RELATION.
IF FOUND, GENERATE A TYPE 2 REFERENTIAL INTEGRITY.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
TEMP-XFORM-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
TXLIST
ESAL
ESQUAL
UVABBR
CGTABLE
CSAL
CSQUAL
BOOLST
RFTABLE
APL
BLSTACK
FORVAR
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTFL
SQLOPN
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
CDARIT
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCAT
PURPOSE: VERIFY WHETHER AN ENTITY IS GENERIC ENTITY AND RETURN
CATEGORY TYPE
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDCAT
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

PERFORM SQL SEARCH TO DETERMINE IF AN ENTITY IS GENERIC. IF SO,
RETRIEVE THE WHETHER IT IS A COMPLETE OR INCOMPLETE CATEGORY.
PERFORM SQL SELECT OF THE CATEGORY-TYPE
IF ENTITY IS GENERIC.
RETURN A CATEGORY TYPE OF SPACES IF NOT FOUND.

ARGUMENTS:

EC-NO	DSPLY[S9(4)]
TAG-NO	DSPLY[S9(4)]
CAT-TYPE	DSPLY[X]
REL-TYPE	DSPLY[X]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
EOD
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTFL
SQLOPN
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCDQ
PURPOSE: ADD ROW TO CS ACTION LIST AND CS QUALIFY LIST AND
TYPE 1 RIT
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDCDQ
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

FOR THE FIRST TEMP-RC-NO ENTRY WHICH MATCHES THE INPUT
ARGUMENT, FILL IN A CS-ACTION ENTRY AND A CS QUALIFY ENTRY
AND ADD THE CS QUALIFY ENTRY FOR THE DISCRIMINATOR
QUALIFICATION.
FOR EACH ADDITIONAL MATCH, FILL IN A CS QUALIFY ENTRY.
ELIMINATE CSQ DUPLICATES AND CALL CDPRE5 TO GENERATE A
TYPE 1 REFERENTIAL INTEGRITY TEST.
NEW ROUTINE FOR REL 2.7 TO PROCESS DISCRIMINATOR QUALIFICATIONS
POPULATE THE FIRST CS ACTION ROW, AND AS MANY
CS QUALIFY ROWS AS THERE ARE TEMP-RC-NO'S
MATCHING THE INPUT PARAMETER RC-NO. AFTER
ALL ACTION AND QUALIFY TABLE ENTRIES HAVE BEEN
POPULATED, MOVE ALL AUC ENTRIES IN THE QUALIFY
LIST WHICH AREN'T ALREADY ON THE ACTION LIST TO
THE ACTION LIST. ALSO POPULATE THE BOOLEAN LIST.
FINALLY, CALL CDPRE5 TO GENERATE THE TYPE 1
REFERENTIAL INTEGRITY TEST.

ARGUMENTS:

TEMP-XFORM-LIST	RECRD
IND-EC-NO	DSPLY[S9(4)]
RC-NO	DSPLY[S9(4)]
DTAG-NO	DSPLY[S9(4)]
TEMP-VALUE	DSPLY[X(30)]
ES-ACTION-LIST	
ES-QUALIFY-LIST	
UV-ABBR-LIST	
CODE-GENERATOR-TABLE	
FCB-1	
FCB-2	
FCB-3	
FCB-4	
MY-HOST	
TARGET-HOST	
SOURCE-LANGUAGE	
FCB-E	
NDML-COUNTER	
CS-ACTION-LIST	
CS-QUALIFY-LIST	
MODEL-NO	
LUW-NAME	
ERROR-STATUS	
RFT	
JQG-ATTRIBUTE-PAIR-LIST	
BLOCK-STACK	
FIRST-INNER-SELECT	
FORTRAN-VARIABLE-TABLE	
SUB-LANG	
EMBEDDED-LANGUAGE	
CURSOR-TABLE	
WHENEVER-TABLE	
RET-STATUS	

INCLUDE FILES:

ERRCDM
ERRFS
BOOLST
TXLIST
ESAL
ESQUAL
UVABBR
CGTABLE
BLSTACK
APL
RFTABLE
FORVAR
CSAL
CSQUAL
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

CDPRE5
CDCMD
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCONS
PURPOSE: NOTE: AS OF 08/01/89 THIS MODULE RE-WRITTEN
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDCONS
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

LANG-NO	RECRD
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
FCB-I	DSPLY[S9(9)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
NEXT-PARAMETER-NO	DSPLY[999]
ES-NDML-NO	DSPLY[999]
FCB-E	DSPLY[S9(9)]
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
SBSTLST
EOD
LANGNO
CSAL
CSQUAL
FORVAR
MACCALL
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
CDGTN
SQLCLS
OUTFIL
RPTERR
CDGETOF
CDMACR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCREFO
PURPOSE: GENERATE NEW FORTRAN VARIABLE NAMES.
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDCREFO
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- This module receives a FORTRAN or C variable name.
It takes the name and creates a new name for it that looks
like CDMxxx (or cdmxxx), where xxx is a letter of the alphabet.
This routine will thus make all FORTRAN or C variables six
characters. This will make the generated FORTRAN or C code
compatible on the VAX, IBM, and CYBER(if ever needed).
The new name is stored in the FORTRAN-VARIABLE-TABLE, along
with its old variable name. CDPRE2 will initialize
the FORTRAN-VARIABLE-TABLE, including the three POS-PTR's
to one. CDPRE2 will also dump the FORTRAN-VARIABLE-TABLE
in the end of the WORKING-STORAGE parcel when it comes

ARGUMENTS:

OLD-VAR	DSPLY[X(30)]
FORTRAN-VARIABLE-TABLE	RECRD
LANGUAGE	DSPLY[X(10)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
FORVAR
ERRPRO

ROUTINES CALLED:

ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCRIT
PURPOSE: PERFORMS SEARCH OF CATEGORY RELATION TO EXTRACT EC_NO
FOR TYPE 1 RI
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDCRIT
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

PERFORM SQL SEARCH OF CATEGORY_RELATION TABLE TO EXTRACT THE
EC NO WHICH CORRESPONDS TO EACH TEMP-RC-NO. CALL
CDCDQ TO FILL ROWS OF CS-ACTION-LIST AND CS-QUALIFY-LIST
AND GENERATE A TYPE 1 REFERENTIAL INTEGRITY TEST.
NEW ROUTINE FOR REL 2.7
FOR EACH NON-ZERO RELATION CLASS, OBTAIN CATEGORY RELATION
ENTITY CLASS NUMBERS. FOR EACH UNIQUE INDEPENDENT
ENTITY CLASS NUMBER, CALL CDCDQ TO EVENTUALLY
GENERATE A TYPE 1 REFERENTIAL INTEGRITY TEST.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
TEMP-XFORM-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]

NDML-COUNTER	DSPLY[9(6)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
TXLIST
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CSAL
CSQUAL
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTFL
SQLOPN
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
CDCDQ
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDEC
PURPOSE: GENERATE ES/CS TRANSFORM COBOL OR FORTRAN CODE INTO AP
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDEC
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- THIS ROUTINE WILL GENERATE WORKING STORAGE
-

FOR NON-COMPLEX TRANSFORMATIONS, SIMPLE MOVES (COBOL) OR EQUATES (FORTRAN) FROM EXTERNAL VARIABLES TO CONCEPTUAL VARIABLES ARE GENERATED.
FOR COMPLEX ES/CS MAPPINGS, THE PARAMETER SETUPS, CMA CALLS AND OUTPUT PARAMETER MOVES OR EQUATES ARE GENERATED.

ARGUMENTS:

LANG-NO	RECRD
FCB-I	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
NEXT-PARAMETER-NO	DSPLY[9(3)]
CLIST-INDEX	DSPLY[99]
ELIST-INDEX	DSPLY[99]
ACTION-TYPE	DSPLY[X]
ES-ACTION-TYPE	DSPLY[X]
ES-NDML-NO	DSPLY[999]
CS-NDML-NO	DSPLY[9(6)]
DI-NO	DSPLY[9(6)]
AUC-NO	DSPLY[9(6)]
VAR-OR-FILE-IND	DSPLY[X]
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
DI-TYPE	DSPLY[X]
TAG-TYPE	DSPLY[X]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
LANGNO
FORVAR
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
CDPIC
SQLTFL
SQLOPN
OUTFIL
SQLCLS
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDECWS
PURPOSE: ES/CS DATA DEF FOR RT INSERT/MODIFY/QUAL DATA VALUES
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDECWS
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-
EXTERNAL/CONCEPTUAL SCHEMA DATA DEFINITIONS
FOR RUNTIME INSERT, MODIFY AND QUALIFY DATA VALUES

UPDATED 2-6-87 FOR RELEASE 2.3
WILL GENERATE FORTRAN VARIABLES OF NO LARGER THAN
SIX VARIABLES.
UPDATED 2-22-89 TO CREATE CSQ-VARIABLE FOR CASCADE
DELETE (Z) OR CASCADE SELECT (A).
ADDED ADDITIONAL CODE TO BUILD THE KEY VARIABLE
USING THE CS-ACTION (CS-LOCAL-VARIABLE) FOR A
CASCADE SELECT (A).
ADDED FILE STRUCTURE TO HOLD RESULTS COMING
BACK FROM CS/CS FOR CASCADE SELECT.
8/89 - ADDED LOGIC TO GENERATE C AND NEW FORTRAN VARIABLES.
ALSO ADDED LOGIC FOR SQL CURSOR LOGIC.
CODE WILL BE GENERATED INTO THE WORKING STORAGE
SECTION OF THE MODIFIED AP, DEPENDING ON THE
CS-ACTION
THE FOLLOWING CODE WILL BE GENERATED :
01 CS-VAR-NDMLNO-NN PIC TYPE(SIZE)[V9(ND)].
01 CSQ-VAR-NDMLNO-NN PIC TYPE(SIZE)[V9(ND)].
01 ES-VAR-NDMLNO-NN PIC TYPE(SIZE)[V9(ND)].
01 ESQ-VAR-NDMLNO-NN PIC TYPE(SIZE)[V9(ND)].
WHERE NN IS EITHER THE CS-ES-PTR OR CSQ-ES-PTR
OR CS-INDEX OR CSQ-INDEX.

ARGUMENTS:

LANG-NO	RECRD
FCB	DSPLY[S9(9)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
FORTRAN-VARIABLE-TABLE	RECRD
CASCADE-DELETE-FLAG	DSPLY[9]
INS-MOD-SWITCH-FLAG	DSPLY[X]
CURSOR-TABLE	RECRD
EMBEDDED-LANGUAGE	DSPLY[X(10)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
ESREC
LANGNO
CSAL
CSQUAL
CURTAB
ESAL
ESQUAL
FORVAR
ERRPRO

ROUTINES CALLED:

CDPIC
OUTFIL
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDELIS
PURPOSE: RETRIEVE ALL RCNOS FOR ENTITY, GET MEMBERS ADD TO LIST
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDELIS
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- THIS ROUTINE WILL RETRIEVE ALL RCNOS FOR AN ENTITY, DETERMINE IF IT A LINK RELATION OR CATEGORY RELATION. IF IT IS CATEGORY, MEMBERS WILL BE RETRIEVED AND ADDED TO EXISTING LIST. PROCESSING WILL BE DOWN THE LIST UNTIL ALL ENTITIES HAVE BEEN RETRIEVED AND RCNOS CHECKED. IF IT IS A LINK RELATION, IT WILL BE ADDED TO A TABLE BUILT FOR TYPE2 PROCESSING. TYPE 2'S WILL NOT BE CHECKED FOR CATEGORIES UNDER THEM.

-
SELECT THE RC-NO USING THE EC-TABLE AND BUILD TYPE 2 TABLE OR ADD TO EC-TABLE DEPENDING ON LINK TYPE

ARGUMENTS:

EC-TABLE	RECRD
TYPE2-EC	RECRD
ERROR-STATUS	DSPLY[9]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
DELCAT
TYP2TB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
SQLCLS
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDERC
PURPOSE: DETERMINE IF ENTITY IS GENERIC IN CATEGORY
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDERC
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- THIS ROUTINE WILL DETERMINE IF AN ENTITY IS
GENERIC AND IF SO - WILL BUILD A TABLE OF
ECNOS FOR FURTHER PROCESSING.

-
SELECT THE CATEGORY RC-NOS GIVEN THE TARGET ENTITY NUMBER AND
BUILD A
LIST OF CATEGORY MEMBERS FOR FURTHER PROCESSING.

ARGUMENTS:

IND-EC-NO	DSPLY[S9(4)]
EC-TABLE	RECRD
ERROR-STATUS	DSPLY[9]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
DELCAT
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDGETOF
PURPOSE: GET GENERATED FORTRAN VARIABLE NAME.
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDGETOF
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- This program scans the FORTRAN-VARIABLE-TABLE searching for an old FORTRAN variable name. When it is found, it returns its corresponding generated six-character FORTRAN name.

ARGUMENTS:

OLD-VAR	DSPLY[X(30)]
NEW-VAR	DSPLY[X(6)]
FORTRAN-VARIABLE-TABLE	RECRD
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
FORVAR
ERRPRO

ROUTINES CALLED:

ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10
PURPOSE: BUILD CALLS AND MESSAGES INTO THE USERS APPLICATION PROCESS
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

GENERATES CODE INTO THE USERS APPLICATION PROGRAM REQUIRED TO PROCESS THE NDML REQUEST AT RUNTIME. THIS INCLUDES CODE TO ASSEMBLE TABLES AND PARAMETERS NEEDED BY THE DISTRIBUTED REQUEST SUPERVISOR TO SATISFY AN NDML REQUEST AND CODE TO RECEIVE THE RESULTS FROM THE REQUEST.
UPDATED 2/6/87 FOR RELEASE 2.3
IN FORTRAN GENERATION, WILL GENERATE ONLY SIX CHARACTER VARIABLES.
UPDATE 10/13/88 FOR RELEASE 2.5
IN FORTRAN GENERATION, WILL NOW WRITE TO ALL FOUR PARCELS AND EXPECT FORTRAN C/E.
UPDATE 12/19/88
BUG FIX IN SELECT-INNER-SELECT SHOULD BE 8 NOT 12.
DELETED IOS-SECITON PARAMETER - 2 MAY 1989
UPDATE 9/89
CHANGES TO ALLOW C CODE GENERATION.
CHANGES TO ALLOW FOR EMBEDDED SQL.

ARGUMENTS:

ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
IS-ACTION-LIST	RECRD
IS-QUALIFY-LIST	RECRD
JQG	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
RFT	RECRD
SUBTRANS-PROCESS-ID-TABLE	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-I	DSPLY[S9(9)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
FCB-E	DSPLY[S9(9)]
CS-ES-MOD-NAME	DSPLY[X(10)]
CS-CS-MOD-NAME	DSPLY[X(10)]
SOURCE-LANGUAGE	DSPLY[X(10)]
UV-ABBR-LIST	RECRD
BLOCK-STACK	RECRD
LUW	DSPLY[X(30)]
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RETURN-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
CHKCDM
SBSTLST
LANGNO
ESAL
ESQUAL
CSAL
CSQUAL
ISAL
ISQUAL
JQGTBL
APL
RFTABLE
SUBPROC
CGTABLE
UVABBR
BLSTACK
FORVAR
CURTAB
WHENTAB
MACCALL
ERRPRO

ROUTINES CALLED:

RPTERR
CDP10A
CDP10B
CDP10E
CDP10C
CDP10F
CDP10S
CDCONS
CDGTN
OUTFIL
CDCREFO
CDGETOF
CDMACR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10A
PURPOSE: GENERATE THE TRANSFORMATION OF ES VALUES AND
VARIABLES
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10A
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

MOD FOR 2.2.5-
INCLUDE THE REMOTE/LOCAL ON THE INTERFACE TO THE DRS
PASS ALONG THE RP-SUB NAME, RATHER THAT IT'S CASE NUMBER
MOD FOR 2.3 - 2/9/87
WHEN FORTRAN, GENERATE VARIABLES THAT ARE ONLY
SIX CHARACTERS LONG.
MOD FOR 2.5 - 10/13/88
WHEN FORTRAN, WILL WRITE TO ALL FOUR PARCELS AND
EXPECT FORTRAN CTOE.
MOD FOR 2.6 - 12/6/88
INCLUDE A RP-LANG CHARACTER ON THE INTERFACE TO THE DRS
MOD FOR 2.7 - 08/28/89
INCLUDE GENERATION OF C

ARGUMENTS:

LANG-NO	RECRD
FCB-I	DSPLY[S9(9)]
FCB-F	DSPLY[S9(9)]

FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
IS-ACTION-LIST	RECRD
IS-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
SUBTRANS-PROCESS-ID-TABLE	RECRD
NEXT-PARAMETER-NO	DSPLY[999]
FCB-E	DSPLY[S9(9)]
LUW	DSPLY[X(30)]
FORTRAN-VARIABLE-TABLE	RECRD
CURSOR-TABLE	RECRD
EMBEDDED-LANGUAGE	DSPLY[X(10)]
TARGET-HOST	DSPLY[XXX]
CASCADE-DELETE-FLAG	DSPLY[9]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
SBSTLST
LANGNO
ESAL
ESQUAL
ISAL
ISQUAL
CSAL
CSQUAL
CGTABLE
SUBPROC
UVABBR
FORVAR
CURTAB
ERRPRO

ROUTINES CALLED:

CDECWS
CDUEMV
CDF1RP
CDEC
OUTFIL
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10B
PURPOSE: GENERATED THE PRECOMPILE TABLES INTO THE USERS AP
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10B
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- GENERATE THE TRANSFER OF PRECOMPILE
TABLES INTO THE USERS AP. THESE TABLES INCLUDE:
JQG - JOIN QUERY GRAPH
APL - ATTRIBUTE PAIR LIST
RFT - RESULT FIELD TABLE
CSAL - CONCEPTUAL SCHEMA ACTION LIST

MOD REL 2.5 - 10/13/88
IN FORTRAN, WILL WRITE TO ALL FOUR PARCELS AND EXPECT
FORTRAN CTOE.
MOD REL 2.7(?) - 8-8-89
CHANGES TO ALLOW GENERATION OF C CODE
-
GENERATE WORKING STORAGE VARIABLES TO HOLD THE
PRECOMPILE TABLES REQUIRED FOR THE NDML REQUEST. THEN
POPULATE THESE VARIABLES WITH PRECOMPILED RESULTS
REQUIRED FOR THE NDML REQUEST.

ARGUMENTS:

LANG-NO	RECRD
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
ES-NDML-NO	DSPLY[999]
JQG	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
RFT	RECRD
CS-ACTION-LIST	RECRD
IS-ACTION-LIST	RECRD
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
RETURN-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
CHKCDM
SBSTLST
LANGNO
JQGTBL
APL
RFTABLE
CSAL
ISAL
FORVAR
MACCALL
ERRPRO

ROUTINES CALLED:

CDMACR
OUTFIL
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10C
PURPOSE: GENERATE ES RESULTS INTO USER VARIABLES OR STRUCTURE
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10C
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

ARGUMENTS:

LANG-NO	RECRD
FCB-P	DSPLY[S9(9)]
ES-ACTION-LIST	RECRD
CS-NDML-NO	DSPLY[9(6)]
FORTRAN-VARIABLE-TABLE	RECRD
EMBEDDED-LANGUAGE	DSPLY[X(10)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
LANGNO
ESAL
FORVAR
ERRPRO

ROUTINES CALLED:

OUTFIL
ERRPRO
CDCREFO
CDGETOF

DOCGROUP PS41258 Module Documentation

NAME: CDP10E
PURPOSE: GENERATE ES/CS DATA DEFINITIONS FOR INSERT VALUES
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10E
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

LANG-NO	RECRD
FCB-I	DSPLY[S9(9)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
ES-ACTION-LIST	RECRD
ES-VALUE-USED	DSPLY[99]
FORTRAN-VARIABLE-TABLE	RECRD
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
LANGNO
ESAL
FORVAR
ERRPRO

ROUTINES CALLED:

CDPIC
OUTFIL
ERRPRO
CDCREFO
CDGETOF

DOCGROUP PS41258 Module Documentation

NAME: CDP10F
PURPOSE: GENERATE WORKING STORAGE VARIABLES TO HOLD ES RESULTS
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10F
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

LANG-NO	RECRD
CS-ACTION-LIST	RECRD
ES-ACTION-LIST	RECRD
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FORTRAN-VARIABLE-TABLE	RECRD
CURSOR-TABLE	RECRD
EMBEDDED-LANGUAGE	DSPLY[X(10)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
LANGNO
CSAL
ESAL
FORVAR
CURTAB
ERRPRO

ROUTINES CALLED:

CDPIC
OUTFIL
ERRPRO
CDCREFO
CDGETOF

DOCGROUP PS41258 Module Documentation

NAME: CDP10S
PURPOSE: PERFORM QUERY COMBINATION
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10S
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- THIS FUNCTION WILL:

1) GENERATE CODE INTO THE PROCEDURE PARCEL OF THE APPLICATION PROGRAM THAT IS USED TO ASSEMBLE THE INPUT PARAMETERS REQUIRED FOR THE APPROPRIATE AGGREGATOR TO SATISFY AN NDML QUERY COMBINATION COMMAND.
2) GENERATE CODE INTO THE WORKING STORAGE PARCEL OF THE APPLICATION PROGRAM TO BE USED AS INPUT PARAMETERS FOR THE AGGREGATOR CALLS.
3) GENERATE CODE INTO THE PROCEDURE PARCEL OF THE APPLICATION PROGRAM TO CALL THE APPROPRIATE AGGREGATOR MODULE TO
UPDATED 2/5/87
TO GENERATE ONLY SIX CHARACTER FORTRAN VARIABLES.
UPDATED 10/13/88 (REL 2.5)
FORTRAN TO WRITE TO ALL FOUR PARCELS AND EXPECT FORTRAN CTOE.
UPDATED 9/1/89 (REL 2.7)
GENERATE C CODE

ARGUMENTS:

QUERY-TYPE	DSPLY[X]
ES-NDML-ID1	DSPLY[X(4)]
CS-NDML-ID1	DSPLY[X(6)]
ES-NDML-ID2	DSPLY[X(4)]
CS-NDML-ID2	DSPLY[X(6)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
LANG-NAME	DSPLY[X(10)]
NEXT-QRY-ID	DSPLY[X(4)]
NEXT-CS-QRY-ID	DSPLY[X(6)]
CS-ACTION-LIST	RECRD
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
ERRFS
SBSTLST
CSAL
APL
RFTABLE
FORVAR
ERRPRO
MACCALL

ROUTINES CALLED:

CDMACR
OUTFIL
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10T
PURPOSE: GENERATE CODE TO PERFORM FINAL MAPPING OF RESULTS
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10T
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- THIS FUNCTION WILL:

1. GENERATE CODE INTO THE WORKING STORAGE PARCEL OF THE APPLICATION PROGRAM TO BE USED FOR THE FINAL MAPPING OF RESULTS FROM A QUERY COMBINATION COMMAND.
2. GENERATE CODE INTO THE PROCEDURE PARCEL OF THE APPLICATION PROGRAM TO CALL THE C/E TRANSFROM PROGRAM AND MAP THE RESULTS INTO USER SPECIFIED VARIABLES, STRUCTURE OR FILE.
UPDATED 2/6/87 FOR RELEASE 2.3
WILL GENERATE FORTRAN VARIABLES THAT ARE ONLY SIX CHARACTERS LONG.
DELETE IOS-SECTION PARAMETER -- 2 MAY 1989
UPDATED 9/5/89 FOR RELEASE 2.7
FOR GENERATION OF C CODE

ARGUMENTS:

ES-ACTION-LIST	RECRD
ES-ACTION-INNER	RECRD
CS-ACTION-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-I	DSPLY[S9(9)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
FCB-E	DSPLY[S9(9)]
SOURCE-LANGUAGE	DSPLY[X(10)]
TARGET-HOST	DSPLY[X(3)]
CURRENT-HOST	DSPLY[X(3)]
BLOCK-STACK	RECRD
NEXT-CS-QRY-ID	DSPLY[X(6)]
ACTION-SYMBOL	DSPLY[X]
FORTRAN-VARIABLE-TABLE	RECRD
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
ERRFS
SBSTLST
BLSTACK
ESAL
CSAL
CGTABLE
FORVAR
CURTAB
MACCALL
ERRPRO

ROUTINES CALLED:

APNAME
RPTERR
CDPRE8
CDP10F
CDP10C
OUTFIL
CDMACR
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDPR7SL
PURPOSE: CONSTRUCTS A TABLE OF DATAFIELDS FOR A RECORD TYPE
LANGUAGE: VAX-11 COBOL
SOURCEFILE: CDPR7SL
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

SELECTS ALL THE DATA FIELDS FOR A GIVEN RTID,

CREATED APRIL 1989 TO ELIMINATE ORACLE-SPECIFIC TREE QUERY FROM CDPR7KY MODULE.
-
A structured tree query is executed as an iterative implementation of recursion. Each entry is brought into a table, from where it will be later used as a component of the next higher level data field structure. After the entire set of entries has been brought into the table, they are sorted by rec-seq-no to replicate the original ORACLE-specific recursive select.

ARGUMENTS:

IN-RTID	DSPLY[X(30)]
IN-DBID	DSPLY[S9(9)]
TRECTBL	RECRD
FCB-E	DSPLY[S9(9)]
RET-STATUS	DSPLY[X(5)]
QCS-CDMP-CHECK-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
CHKCDM
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
RPTERR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDSDATE
PURPOSE: ACQUIRE CURRENT DATE FROM THE SYSTEM
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDSDATE
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: SHARE

DESCRIPTION:

THIS ROUTINE ACCEPTS THE CURRENT DATE FROM THE SYSTEM,
FORMATS IT AND RETURNS IT AS OUTPUT.

ARGUMENTS:

FORMATTED-DATE RECRD

DOCGROUP PS41258 Module Documentation

NAME: CDUEMV
PURPOSE: GENERATE EXTERNAL/CONCEPTUAL SCHEMA MOVE STATEMENTS
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDUEMV
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

LANG-NO	RECRD
FCB-P	DSPLY[S9(9)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
FORTRAN-VARIABLE-TABLE	RECRD
CASCADE-DELETE-FLAG	DSPLY[9]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
LANGNO
CSAL
CSQUAL
ESAL
ESQUAL
FORVAR
ERRPRO

ROUTINES CALLED:

OUTFIL
ERRPRO
CDCREFO
CDGETOF

DOCGROUP PS41258 Module Documentation

NAME: CDVERLW
PURPOSE: VERIFY AND LOCK A USER ENTERED LOGICAL UNIT OF WORK
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDVERLW
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-
VWERIFY THE PRESENCE OF THE USER ENTERED LOGICAL UNIT OF
WORK. CALL CDLKLUW WHICH WILL SEARCH FOR IT AND IF FOUND

LOCK THE ROW. IF THE ROW IS NOT FOUND, CDINSLW WILL BE CALLED TO INSERT A NEW LOGICAL UNIT OF WORK OCCURRENCE. THE CHANGE WILL BE COMMITTED TO BE MADE PERMANENT AND CDLKLUW WILL BE REPEATED TO FIND AND LOCK THE ROW JUST INSERTED.

ARGUMENTS:

LUW-NAME	DSPLY[X(30)]
LAST-CASE-NO	DSPLY[9(6)]
LUW-LOCK-STATUS	DSPLY[9]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
ERRPRO

ROUTINES CALLED:

CDLKLUW
CDINSLW
CDDBMSS
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDZDEL
PURPOSE: SETS CASCADE DELETE USING TABLE OF ENTITIES
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDZDEL
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

FILL IN CS ACTION LIST AND CS-QUALIFY LIST FOR CASCADE DELETE
USES A CLONE OF CS QUALIFY AND CS ACTION SO AS NOT TO AFFECT
USER QUALIFICATIONS AND ORIGINAL CSAL
WHICH CASCADE DELETE DOES NOT USE

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
EC-TABLE	RECRD
CSQ-TAB	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
CSQUALX
CSAL
DELCAT
CSQVAR
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CURTAB
WHENTAB
BOOLST
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDCMD
CDPRE5
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: COLCHK
PURPOSE: FIND TABLE NAME THAT A GIVEN COLUMN NAME BELONGS TO.
LANGUAGE: VAX-11 COBOL
SOURCE FILE: COLCHK
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

GIVEN A SPECIFIED COLUMN NAME, THIS ROUTINE TRIES TO FIND THE TABLE NAME IT IS ASSOCIATED WITH. IF A TABLE CANNOT BE FOUND OR MULTIPLE TABLES ARE FOUND, THIS IS AN ERROR. THE TABLE NAME IS THEN
CHECKED AGAINST THE UV-ABBR-LIST TO SEE IF THE TABLE NAME WAS SPECIFIED IN THE 'FROM' CLAUSE. THIS ROUTINE IS CALLED BY CDPRE2A.
PERFORM SQL SELECT FOR THE NAME OF THE TABLE ASSOCIATED WITH COLUMN-NAME. RETURN TABLE-NAME IF FOUND.

ARGUMENTS:

COLUMN-NAME	DSPLY[X(30)]
TABLE-NAME	DSPLY[X(30)]
UV-ABBR-LIST	RECRD
FCB-E	DSPLY[S9(9)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
EOD
UVABBR
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
RPTERR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: COMPKEY
PURPOSE: COMPKEY returns the complete key for an entity
LANGUAGE: VAX-11 COBOL
SOURCE FILE: COMPKEY
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

COMPLETE-KEY-LIST	RECRD
FCB-E	DSPLY[S9(9)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
P5COMKY
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
SQLCLS
RPTERR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: NKOATT
PURPOSE: NKOATT returns a table containing all the non-key attributes,
LANGUAGE: VAX-11 COBOL
SOURCE FILE: NKOATT
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

NONKEY-OWNATT-TABLE	RECRD
FCB-E	DSPLY[S9(9)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
P5NKATT
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
SQLCLS
RPTERR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: P5INATT
PURPOSE: This routine returns whether or not this tag
LANGUAGE: VAX-11 COBOL
SOURCE FILE: P5INATT
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-
Uses the tag-no to access INHERITED_ATT_USE and AUC

ARGUMENTS:

TAG-NO	DSPLY[9(6)]
EC-NO	DSPLY[9(6)]
FOUND-FLAG	DSPLY[9]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
EOD
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH

SQLSCC
SQLTFL
SQLOPN
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: P5XREF
PURPOSE: P5XREF RETRIEVES ALL THE DATA FIELDS FOR
LANGUAGE: VAX-11 COBOL
SOURCE FILE: P5XREF
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

DBID	DSPLY[9(6)]
DF-TABLE-LIST	RECRD
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
EOD
P5DFS
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: ROJCHK
PURPOSE: DETERMINE RECORD OUTER JOIN RULES AND CARDINALITY
LANGUAGE: VAX-11 COBOL
SOURCE FILE: ROJCHK
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- QUERY LINKREL, ECRTJOIN, CATMEM, CATREL

-

ARGUMENTS:

EC-NO	DSPLY[9(6)]
EC-INFO-TBL	RECRD
ROJ-INFO-TABLE	RECRD
FCB-E	DSPLY[S9(9)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
P5ECINF
P5ROJ
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
RPTERR
SQLCLS
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: ROJFLD
PURPOSE: DETERMINE RECORD OUTER JOIN PARTICIPATION OF A
LANGUAGE: VAX-11 COBOL
SOURCE FILE: ROJFLD
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- Query project_data_field to find the entity
the given field is mapped to.

-

ARGUMENTS:

DBID	DSPLY[S9(6)]
DFID	DSPLY[X(30)]
RTNO	DSPLY[9(6)]
ROJ-INFO-TABLE	RECRD
MAPPING-STATUS	DSPLY[X]
FCB-E	DSPLY[S9(9)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
ERRFS
EOD
P5ROJ
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
RPTERR
SQLAD1
SQLFCH
SQLCLS
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDDBMSS
PURPOSE: CALL DBMS SPECIFIC ROUTINE
LANGUAGE: C
SOURCE FILE: CDDBMSS
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

CALLED BY:
CDPRE.PCO, CDP14.PCO, CDVERLW.PCO, CDVERSM.PCO

INPUT:
CHAR *COMMAND_TYPE
OUTPUT:
INT *STATUS
DESCRIPTION:
THIS ROUTINE IS USED MERELY TO CALL EITHER AN ORACLE OR AN
INGRES SPECIFIC EMBEDDED SQL C PROGRAM. THE OBSOLETE CALL
IS 'IFDEF'ED OUT.
NOTE: THIS ROUTINE MUST BE COMPILED WITH EITHER 'ORC' OR 'ING'
DEFINED IN THE COMPILE COMMAND.

ARGUMENTS:

COMMAND_TYPE CHAR *
STATUS INT *

ROUTINES CALLED:

CDORCSP
CDINGSP

DOCGROUP PS41258 Module Documentation

NAME: CURLCNT
PURPOSE:
LANGUAGE: C
SOURCE FILE: CURLCNT
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

ARGUMENTS:

FCB_IN	INT *
FCB_OUT1	INT *
FCB_OUT2	INT *
BUF_LEN	LONG *
REC_LEN	LONG *
BUFFER	CHAR []
CURLEY	INT *
C_MOD_NAME	CHAR []
VAR_ARRAY	VAR_STRUCT *
LANGUAGE	CHAR []
EMB_LANG	CHAR []
CURL_FLAG	INT *
RET_STATUS	CHAR []

INCLUDE FILES:

ERRCDM
TOKSTRT
PCOMM

ROUTINES CALLED:

INPFIL
STRNCMP
PROCVAR
PROEXEC
STRNCPY
STRCPY
ERRPRO
OUTFIL
SSCANF

DOCGROUP PS41258 Module Documentation

NAME: PROCVAR
PURPOSE:
LANGUAGE: C
SOURCE FILE: PROCVAR
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

ARGUMENTS:

FCB_IN	INT *
FCB_OUT1	INT *
FCB_OUT2	INT *
BUF_LEN	LONG
REC_LEN	LONG
BUFFER	CHAR []
VAR_ARRAY	VAR_STRUCT *
LANGUAGE	CHAR *
RET_STATUS	CHAR []

INCLUDE FILES:

ERRCDM
PCOMM
TOKSTRT

ROUTINES CALLED:

STRNCMP
UNPLINE
STRCPY
STRNCPY
PROEXEC
SSCANF
SPRINTF
ERRPRO
RPTERR
INPFIL
OUTFIL

DOCGROUP PS41258 Module Documentation

NAME: PROEXEC
PURPOSE:
LANGUAGE: C
SOURCE FILE: PROEXEC
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

ARGUMENTS:

FCB_IN	INT *
FCB_OUT1	INT *
FCB_OUT2	INT *
BUF_LEN	LONG
REC_LEN	LONG
BUFFER	CHAR []
LANGUAGE	CHAR []
RET_STATUS	CHAR []

INCLUDE FILES:

ERRCDM

ROUTINES CALLED:

STRNCMP
STRCPY
ERRPRO
INPFIL
STRNCPY
OUTFIL

DOCGROUP PS41258 Module Documentation

NAME: SQLFILE
PURPOSE:
LANGUAGE: C
SOURCE FILE: SQLFILE
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

ARGUMENTS:

FCB_IN	INT *
BUF_LEN	LONG
REC_LEN	LONG
FCB_NEW_IN	INT *
LANGUAGE	CHAR []
EMB_LANG	CHAR []
RET_STATUS	CHAR []

INCLUDE FILES:

ERRCDM

ROUTINES CALLED:

STRNCMP
STRCPY
ERRPRO
STRNCPY
OUTFIL
INPFIL

3.10.5 Include File Descriptions

The following list contains a purpose and description of each include file in the documentation group as specified in the source code. The language it is written in is also given.

DOCGROUP PS41258 Include File Description

FILE NAME: APL
PURPOSE: JOIN QUERY ATTRIBUTE PAIR LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS INFORMATION ABOUT THE JOIN
ATTRIBUTES FOR NDML SUBTRANSACTIONS

DOCGROUP PS41258 Include File Description

FILE NAME: BLSTACK
PURPOSE: FORTRAN VARIABLE TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS TABLE HOLDS THE ORIGINAL FORTRAN VARIABLE
AND ITS GENERATED SIX-CHARACTER COUNTERPART.

DOCGROUP PS41258 Include File Description

FILE NAME: BOOLST
PURPOSE: BOOLEAN LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE BOOLEAN OPERATORS, PARENTHESES, AND
POINTERS TO THE TYPE 2 CONDITIONS FOR AN NDML
TRANSACTION

DOCGROUP PS41258 Include File Description

FILE NAME: CGTABLE
PURPOSE: CODE GENERATING TABLE- TRACKS ALL GENERATED SOFTWARE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: CHKCDM
PURPOSE: IISS CDMP CHECK STATUS CODES
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: CSAL
PURPOSE: CONCEPTUAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

TABLE TO HOLD CONCEPTUAL DATA ABOUT THE REQUEST

NOTE!!!!!! This table is cloned in both cdpre5 and cdpre4 so any changes made to this structure needs to be made in these cloned versions. Clone version is CSALX for CDPRE4.
NOTE AGAIN Any changes to the CS-ACTION-ENTRY must be reflected in CDP10B in the C code generation section. The length of CS-STRING2 has been hard coded in the generated C code in paragraph 210-GEN-MOVE-OF-TABLES.

***** THE CONCEPTUAL SCHEMA ACTION LIST

DOCGROUP PS41258 Include File Description

FILE NAME: CSALX
PURPOSE: DUMMY CONCEPTUAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

TABLE TO HOLD CONCEPTUAL DATA FOR CASCADE SELECT

***** THE CONCEPTUAL SCHEMA ACTION LIST

DOCGROUP PS41258 Include File Description

FILE NAME: CSQUAL
PURPOSE: CONCEPTUAL SCHEMA QUALIFY LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS CONCEPTUAL SCHEMA INFORMATION FOR THE REQUEST'S QUALIFICATION

NOTE!!!!!
This table is cloned as CSQUALX in CDPRE4. If it is changed, CSQUALX must be changed also.

THE CONCEPTUAL SCHEMA QUALIFY LIST

DOCGROUP PS41258 Include File Description

FILE NAME: CSQUALX
PURPOSE: CONCEPTUAL SCHEMA QUALIFY LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS CONCEPTUAL SCHEMA INFORMATION FOR
THE REQUEST'S QUALIFICATION
THIS IS A CLONE USED FOR DELETE CATEGORY SO
AS NOT TO DESTROY THE USER'S QUALIFICATIONS

THE CONCEPTUAL SCHEMA QUALIFY LIST

DOCGROUP PS41258 Include File Description

FILE NAME: CSQVAR
PURPOSE: EXTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: CURTAB
PURPOSE: BOOLEAN LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE BOOLEAN OPERATORS, PARENTHESES, AND
POINTERS TO THE TYPE 2 CONDITIONS FOR AN NDML
TRANSACTION

DOCGROUP PS41258 Include File Description

FILE NAME: DELCAT
PURPOSE: EXTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE EXTERNAL SCHEMA INFORMATION FOR AN
NDML REQUEST
THE EXTERNAL SCHEMA ACTION LIST

DOCGROUP PS41258 Include File Description

FILE NAME: EOD
PURPOSE: SQL END OF DATA DEFINITION
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: ERRCDM
PURPOSE: IISS ERROR STATUS CODES FOR CDMP MODULES
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS ALL ERROR CODES USED BY CDMP *
MODULES FOR ERROR HANDLING *

DOCGROUP PS41258 Include File Description

FILE NAME: ERRFS
PURPOSE: ERRFS.INC - FILE I/O PRIMITIVES (FILE SERVICES)
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

IISS ERROR CODES

THIS FILE DEFINES THE FS STATUS
CODES IN COBOL FORMAT

DOCGROUP PS41258 Include File Description

FILE NAME: ERRPRO
PURPOSE: PROCESS ERROR INCLUDE FILE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: ESAL
PURPOSE: EXTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE EXTERNAL SCHEMA INFORMATION FOR AN NDML REQUEST

DOCGROUP PS41258 Include File Description

FILE NAME: ESQUAL
PURPOSE: EXTERNAL SCHEMA QUALIFY LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS EXTERNAL SCHEMA INFORMATION FOR THE NDML

DOCGROUP PS41258 Include File Description

FILE NAME: ESREC
PURPOSE: WS DEFINTION FOR COBOL SOURCE LINE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS DEFINITION IS USED WHEN GENERATING COBOL SOURCE CODE

CHANGED FOR AAAP PROJECT TO REFLECT FORTRAN AND C SOURCE CODE FORMATS. JULY 22, 1988

DOCGROUP PS41258 Include File Description

FILE NAME: FORVAR
PURPOSE: FORTRAN VARIABLE TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS TABLE HOLDS THE ORIGINAL FORTRAN VARIABLE AND ITS GENERATED SIX-CHARACTER COUNTERPART.

DOCGROUP PS41258 Include File Description

FILE NAME: ISAL
PURPOSE: INTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS INTERNAL SCHEMA INFORMATION ABOUT AN NDML REQUEST

DOCGROUP PS41258 Include File Description

FILE NAME: ISQUAL
PURPOSE: INTERNAL SCHEMA QUALIFY LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS INTERNAL SCHEMA INFORMATION FOR AN NDML QUALIFICATION

THE INTERNAL SCHEMA QUALIFY LIST

DOCGROUP PS41258 Include File Description

FILE NAME: JQGTBL
PURPOSE: JOIN QUERY GRAPH TELLS HOW TO CONNECT SUBTRANSACTIONS
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: LANGNO
PURPOSE: SOURCE LANGUAGE VARIABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE VALUES FOR THE SOURCE LANGUAGE OF THE APPLICATION

DOCGROUP PS41258 Include File Description

FILE NAME: MACCALL
PURPOSE: CALL THE MACRO COPY UTILITY
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

PARAGRAPHS TO SUBSTITUTE PARAMETERS FOR MACRO CALLS
AND TO CALL "CDMACR" ROUTINE

DOCGROUP PS41258 Include File Description

FILE NAME: P5COMKY
PURPOSE: this table contains information about the tags involved in the
LANGUAGE: VAX-11 COBOL

DESCRIPTION:
---

complete key for a given entity. This table was created to support record outer join.

DOCGROUP PS41258 Include File Description

FILE NAME: P5DFS
PURPOSE: DATAFIELD TABLE - HOLDS ALL DATAFIELD NUMBERS
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

FOR A RECORD/DATABASE COMBINATION FOR CODASYL
USED TO TRACK ALL FIELDS, EVEN IF NOT SELECTED, FOR BETTER
IMPACT PROCESSING.

DOCGROUP PS41258 Include File Description

FILE NAME: P5ECINF
PURPOSE: THIS TABLE CONTAINS INFORMATION ABOUT EACH UNIQUE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

ENTITY IN THE CS-ACTION-LIST. THIS INFORMATION
INCLUDES IF THE ENTITY IS HORIZONTALLY PARTITIONED
AND THE ENTITY'S RETRIEVAL/UPDATE RULES. THIS
TABLE WAS CREATED FOR RELEASE 2.3.
information added 4/89 to support record outer
join

DOCGROUP PS41258 Include File Description

FILE NAME: P5NKATT
PURPOSE: this table contains information about the non-key owned attribute
LANGUAGE: VAX-11 COBOL

DESCRIPTION:
---

for a given entity. This table was created to support record outer join.

DOCGROUP PS41258 Include File Description

FILE NAME: P5ROJ
PURPOSE: THIS TABLE CONTAINS INFORMATION ABOUT EACH
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

ENTITY IN THE CS-ACTION-LIST. THIS INFORMATION INDICATES (FOR ENTITIES ENGAGED IN A RECORD OUTER JOIN) IF IT IS THE INDEPENDENT OR DEPENDENT ENTITY, WHAT RELATION(S) IT IS ASSOCIATED WITH, AND WHAT CARDINALITY IT IS INVOLVED IN.

DOCGROUP PS41258 Include File Description

FILE NAME: RFTABLE
PURPOSE: THE RESULT FIELD TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS CONCEPTUAL SCHEMA INFORMATION ABOUT THE RESULTS OF AN NDML REQUEST

THE RESULT FIELD TABLE

WHEN CHANGING THE STRUCTURE OF THIS TABLE
BE SURE TO CHANGE THE LAYOUT IN THE
LINKAGE SECTION OF THE DRS (CDS01)
WHICH WAS COPIED FROM THIS.

DOCGROUP PS41258 Include File Description

FILE NAME: SBSTLST
PURPOSE: WS DEFINITION FOR THE SUBSTITUTION LIST TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

SUBSTITUTION-LIST REPRESENTS THE INPUT TABLE
OF SUBSTITUTION PARAMETERS FOR THE CDMACR
MACRO EXPANSION SUBROUTINE

DOCGROUP PS41258 Include File Description

FILE NAME: SUBPROC
PURPOSE: SUBTRANSACTION PROCESSES ID TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS TABLE MUST HAVE THE SAME NUMBER OF OCCURS
AS THE RITABLE.INC AND QITABLE.INC SINCE THEY ARE
PARALLEL TABLES.

DOCGROUP PS41258 Include File Description

FILE NAME: THRU
PURPOSE: PROCESS ERROR INCLUDE FILE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: TXLIST
PURPOSE: TEMP TRANSFORM LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS WILL TEMPORARILY STORE METADATA ABOUT AN
NDML UPDATE REQUEST EXPRESSED IN CS TERMS
(INTERNAL TO PRE4)

DOCGROUP PS41258 Include File Description

FILE NAME: TYP2TB
PURPOSE: EXTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE EXTERNAL SCHEMA INFORMATION FOR AN NDML REQUEST

THE EXTERNAL SCHEMA ACTION LIST

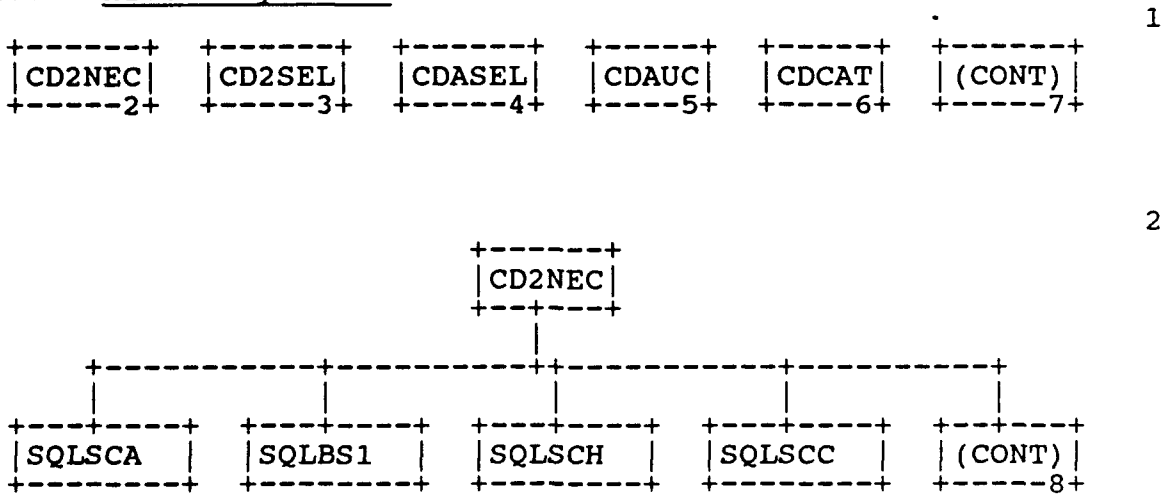
DOCGROUP PS41258 Include File Description

FILE NAME: UVABBR
PURPOSE: USER VIEW ABBREVIATION LIST
LANGUAGE: VAX-11 COBOL

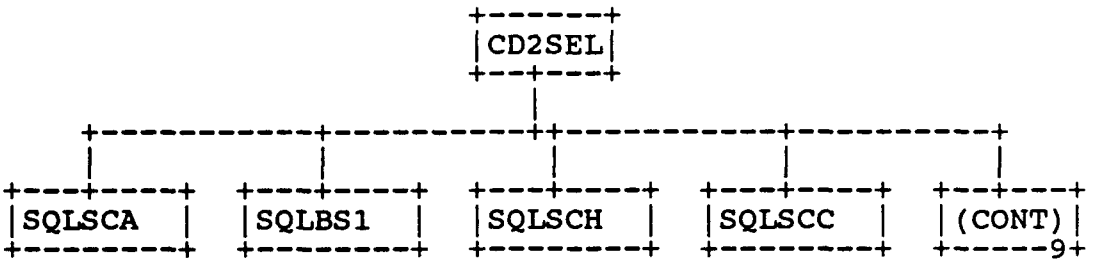
DESCRIPTION:

CONTAINS THE ABBREVIATIONS FOR ALL USER

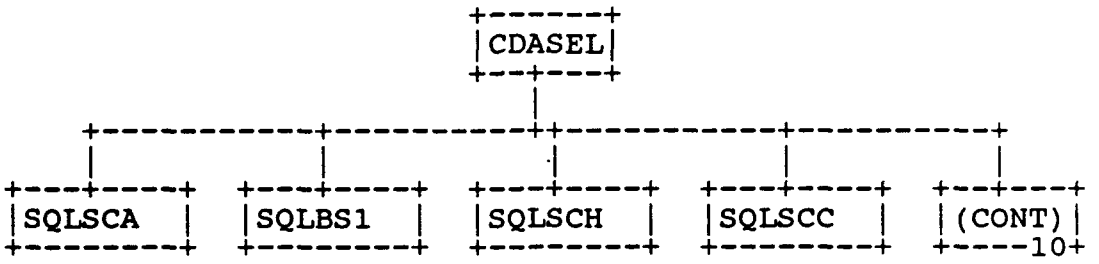
3.10.6 Hierarchy Chart



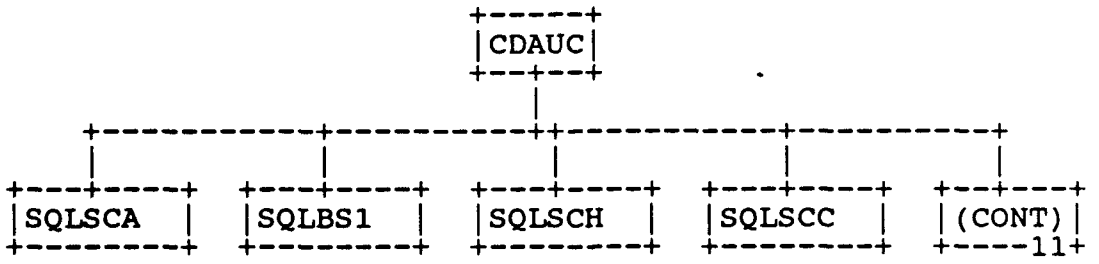
3


CD2SEL
SQLSCA
SQLBS1
SQLSCH
SQLSCC
(CONT)
9

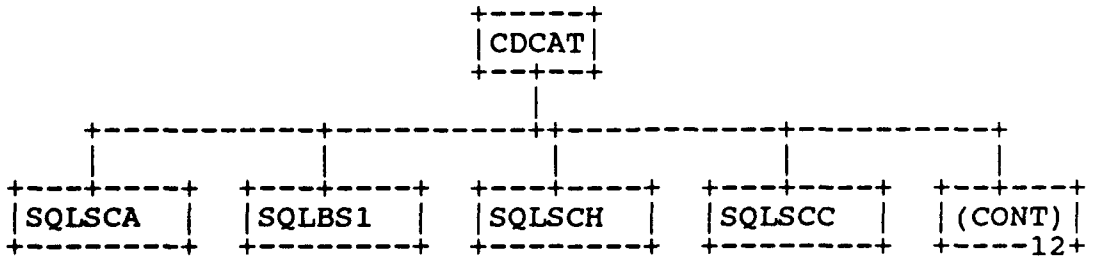
4


CDASEL
SQLSCA
SQLBS1
SQLSCH
SQLSCC
(CONT)
10

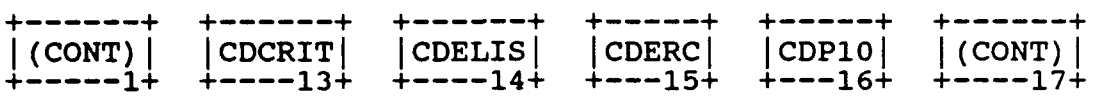
5


CDAUC
SQLSCA
SQLBS1
SQLSCH
SQLSCC
(CONT)
11

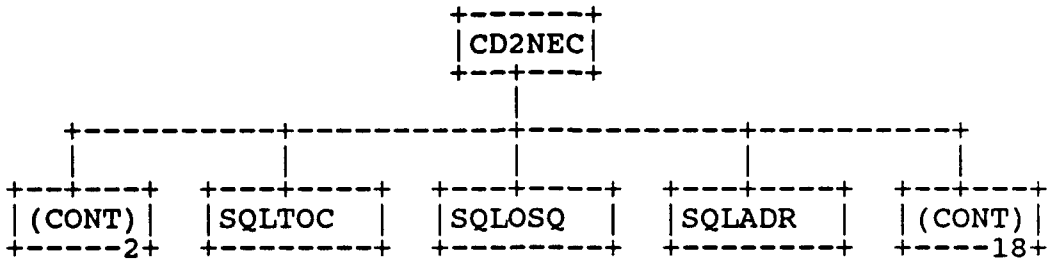
6


CDCAT
SQLSCA
SQLBS1
SQLSCH
SQLSCC
(CONT)
12

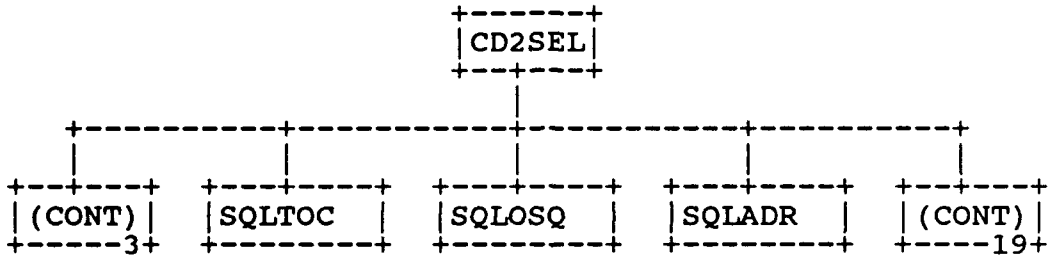
7


(CONT)
1
CDCRIT
13
CDELIS
14
CDERC
15
CDP10
16
(CONT)
17

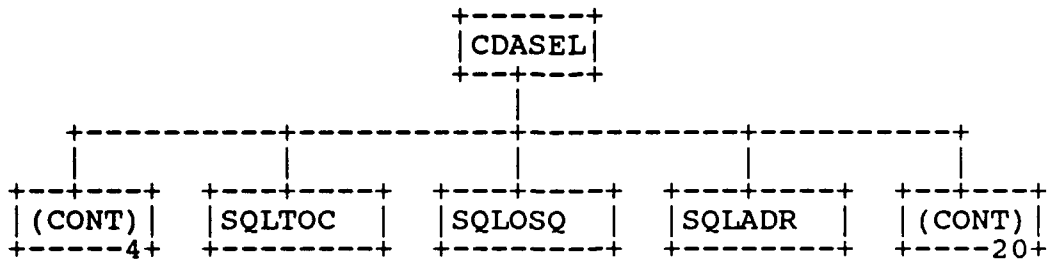
8


CD2NEC
(CONT)
2
SQLTOC
SQLOSQ
SQLADR
(CONT)
18

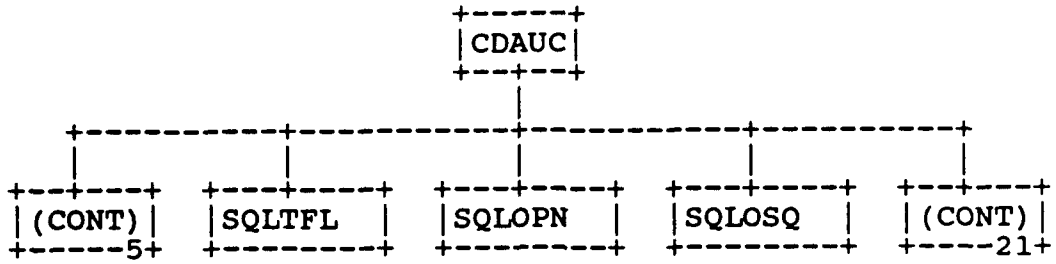
9


CD2SEL
(CONT)
3
SQLTOC
SQLOSQ
SQLADR
(CONT)
19

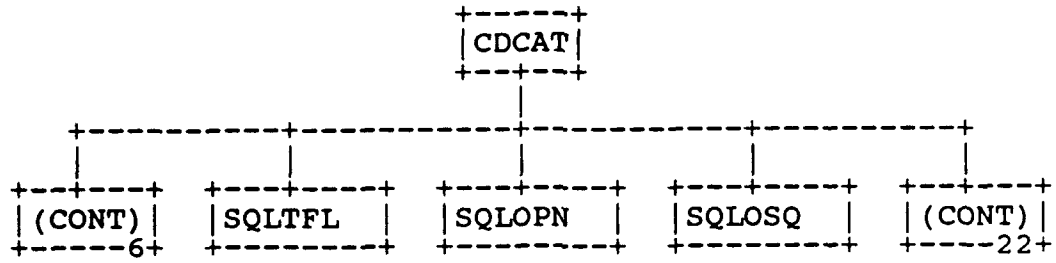
10


CDASEL
(CONT)
4
SQLTOC
SQLOSQ
SQLADR
(CONT)
20

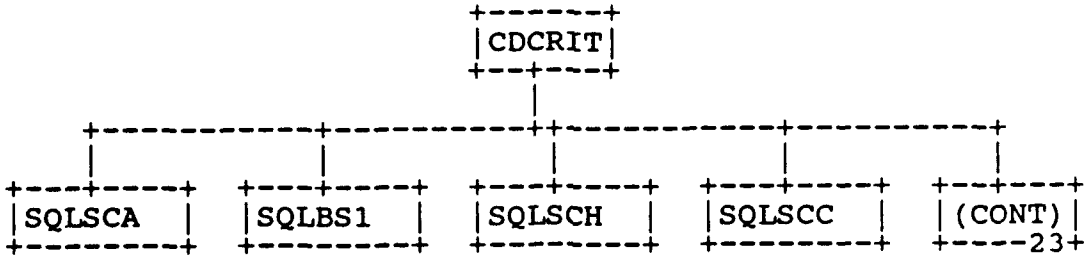
11


CDAUC
(CONT)
5
SQLTFL
SQLOPN
SQLOSQ
(CONT)
21

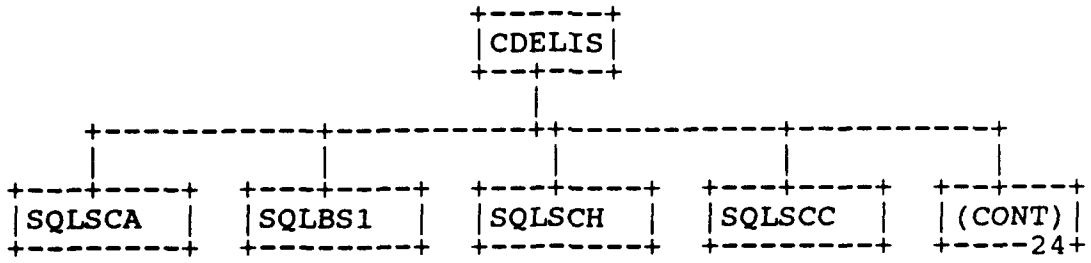
12


CDCAT
(CONT)
6
SQLTFL
SQLOPN
SQLOSQ
(CONT)
22

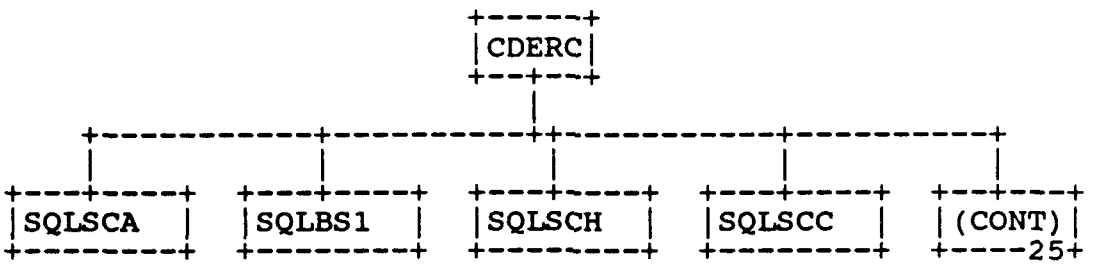
13


CDCRIT
SQLSCA
SQLBS1
SQLSCH
SQLSCC
(CONT)
23

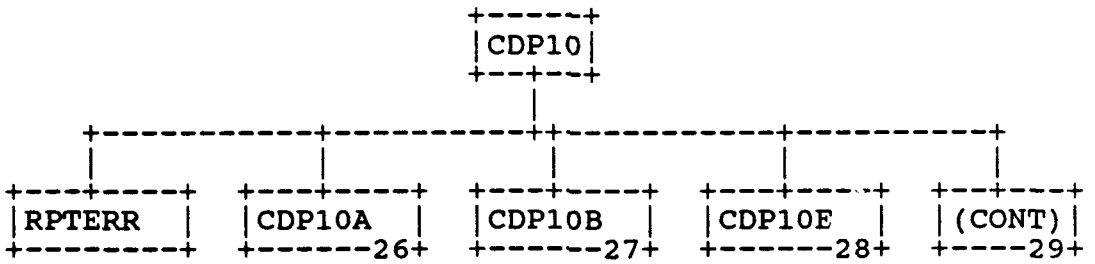
14


CDELIS
SQLSCA
SQLBS1
SQLSCH
SQLSCC
(CONT)
24

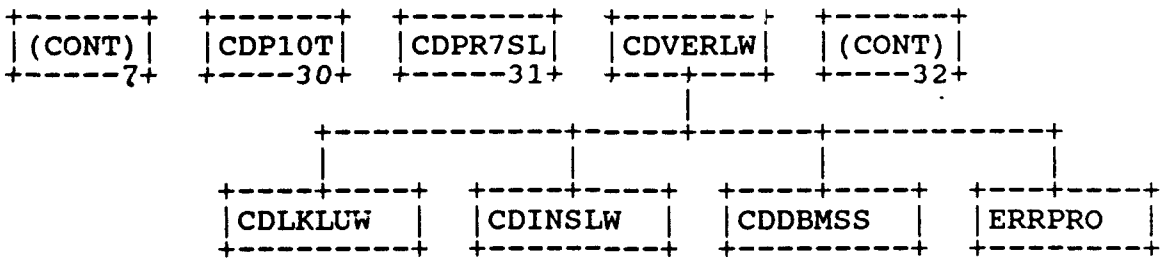
15


CDERC
SQLSCA
SQLBS1
SQLSCH
SQLSCC
(CONT)
25

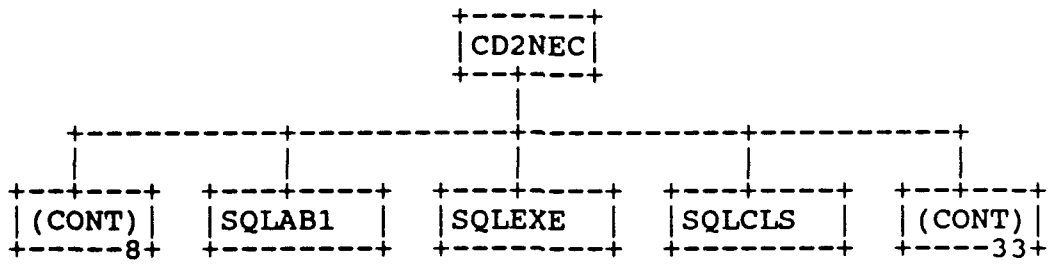
16


CDP10
RPTERR
CDP10A
26
CDP10B
27
CDP10E
28
(CONT)
29

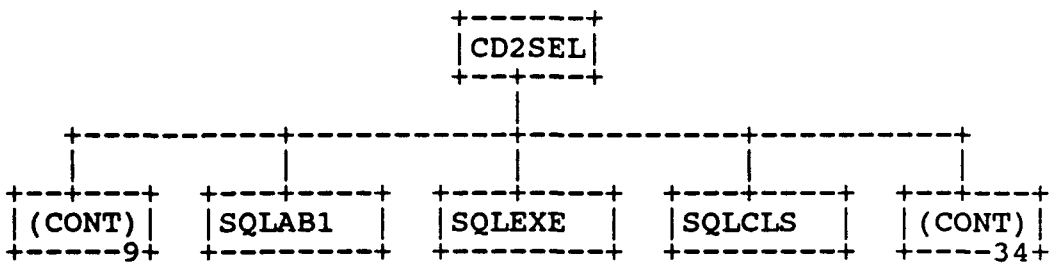
17


(CONT)
7
CDP10T
30
CDPR7SL
31
CDVERLW
(CONT)
32
CDLKLUW
CDINSLW
CDDBMSS
ERRPRO

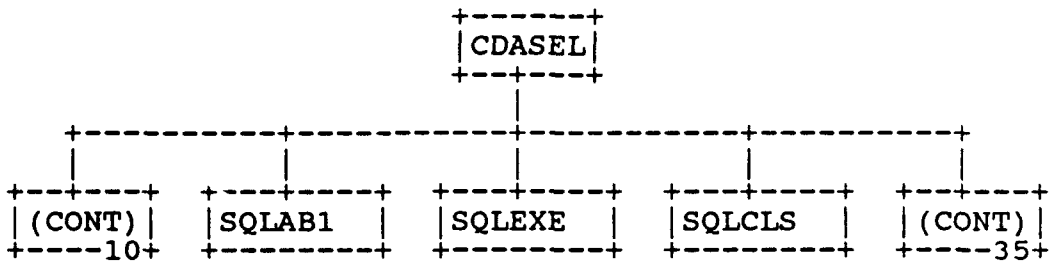
18


CD2NEC
(CONT)
8
SQLAB1
SQLEXE
SQLCLS
(CONT)
33

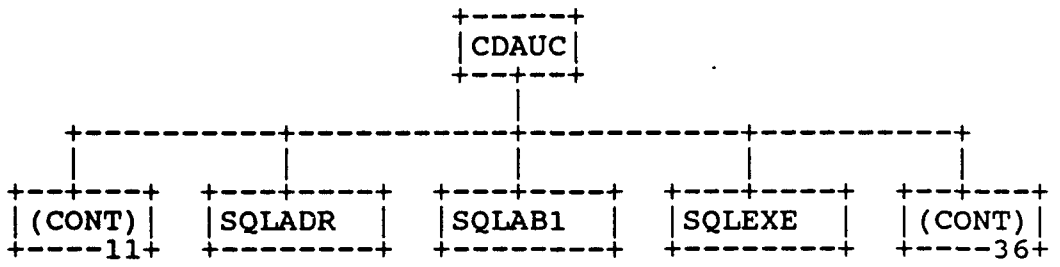
19


CD2SEL
(CONT)
9
SQLAB1
SQLEXE
SQLCLS
(CONT)
34

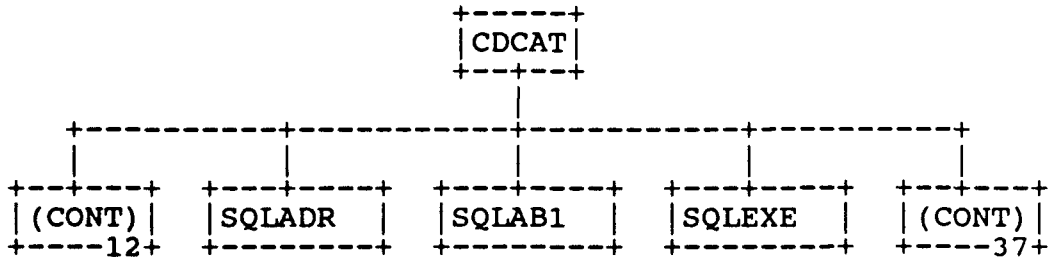
20


CDASEL
(CONT)
10
SQLAB1
SQLEXE
SQLCLS
(CONT)
35

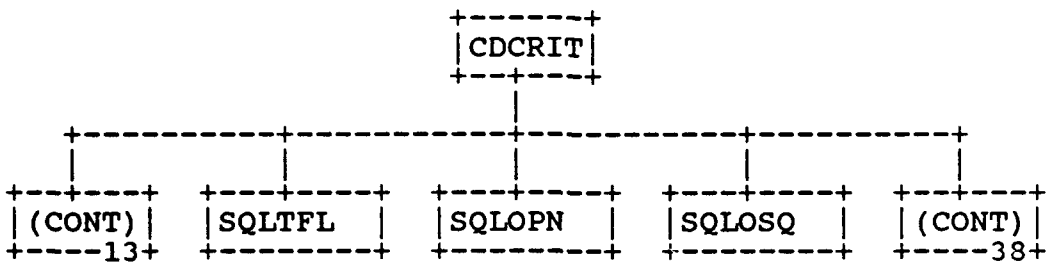
21


CDAUC
(CONT)
11
SQLADR
SQLAB1
SQLEXE
(CONT)
36

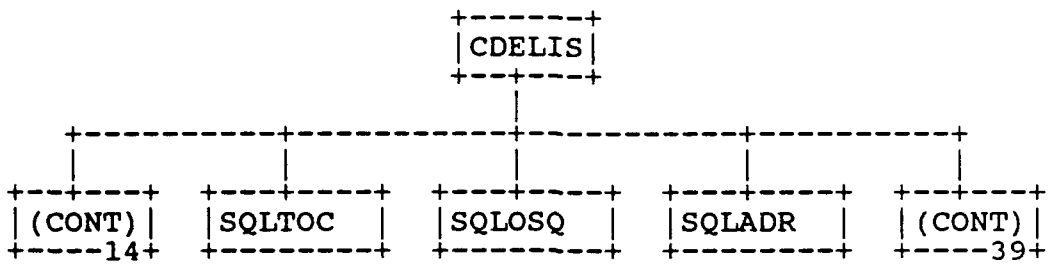
22


CDCAT
(CONT)
12
SQLADR
SQLAB1
SQLEXE
(CONT)
37

23


CDCRIT
(CONT)
13
SQLTFL
SQLOPN
SQLOSQ
(CONT)
38

24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SQLTOC
SQLOSQ
SQLADR
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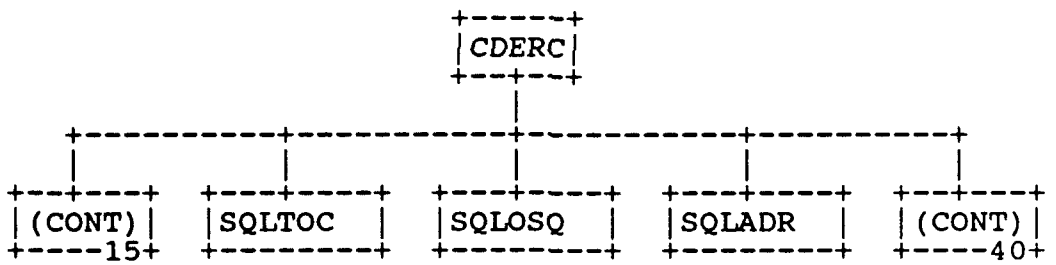
39

25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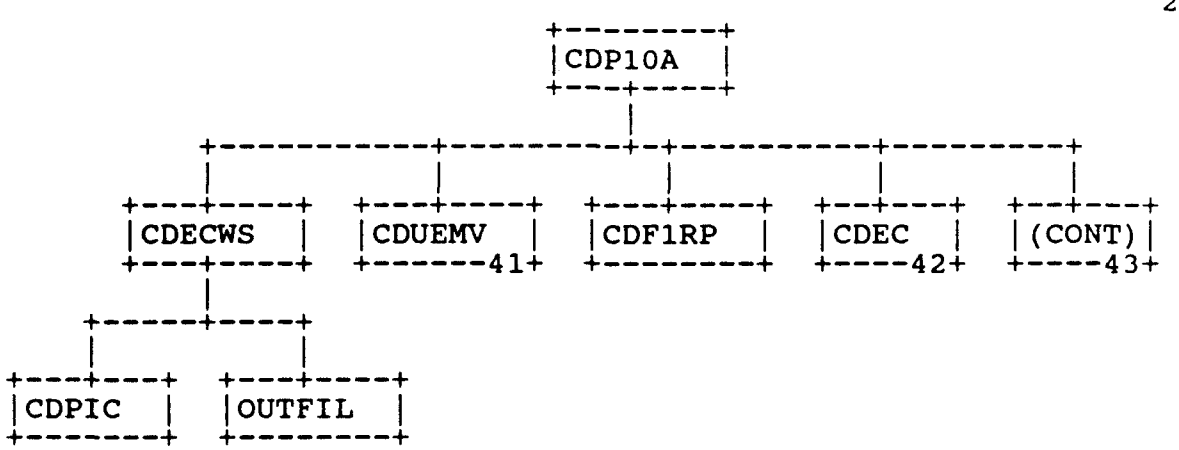
SQLTOC
SQLOSQ
SQLADR
(CONT)
40

26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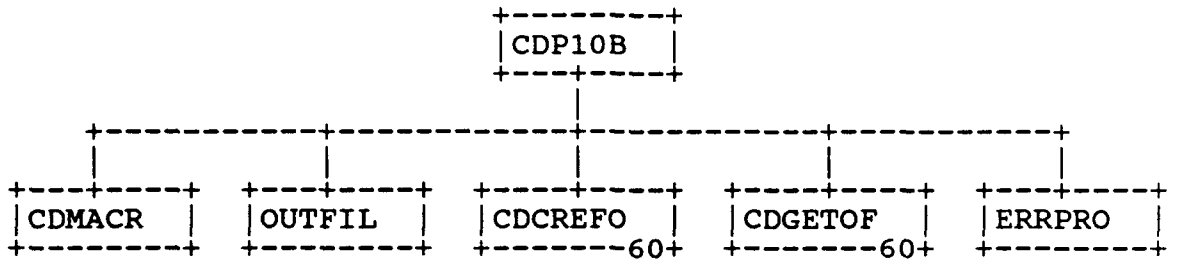
CDUEMV
41
CDF1RP
CDEC
42
(CONT)
43
CDPIC
OUTFIL

27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CDMACR
OUTFIL
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CDGETOF
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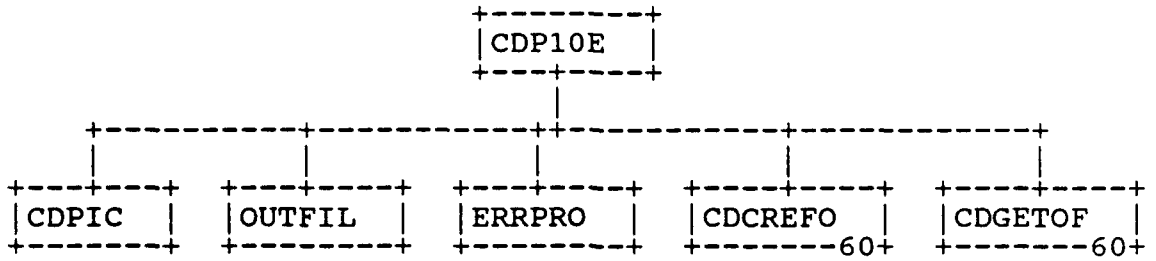
ERRPRO

28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OUTFIL
ERRPRO
CDCREFO
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CDGETOF
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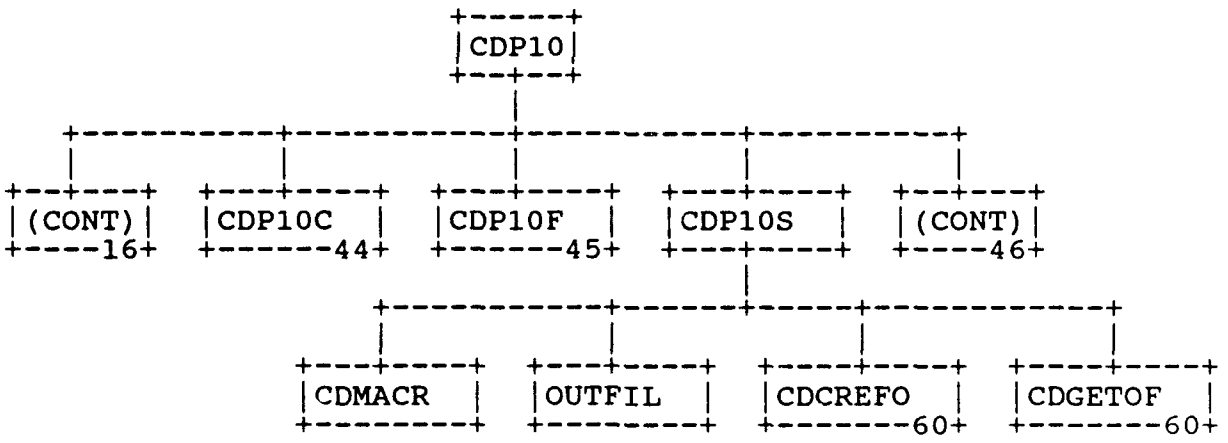
29


CDP10
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16
CDP10C
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CDP10F
45
CDP10S
(CONT)
46
CDMACR
OUTFIL
CDCREFO
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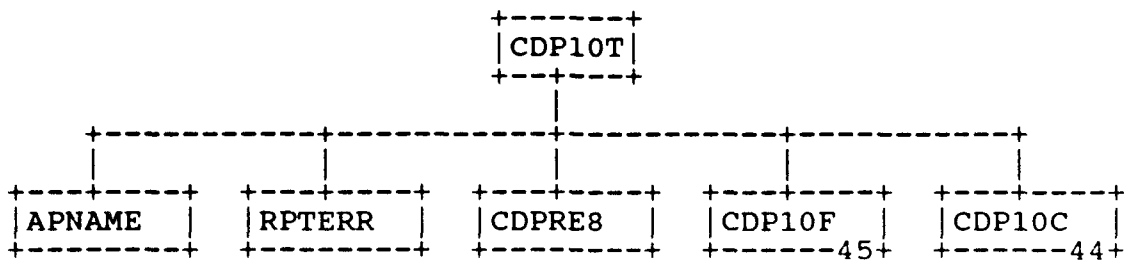
CDGETOF
60

30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APNAME
RPTERR
CDPRE8
CDP10F
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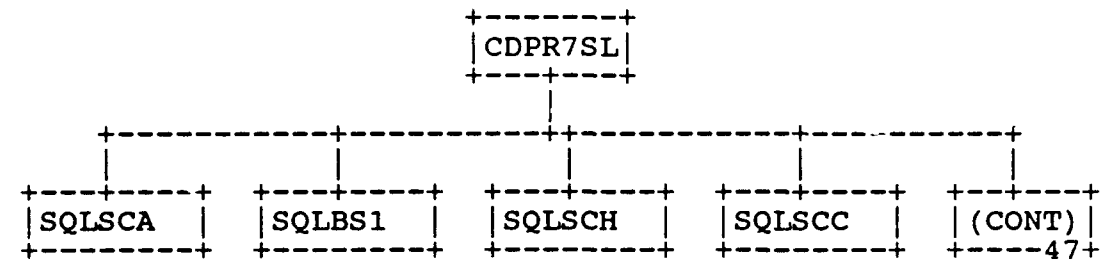
CDP10C
44

31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SQLBS1
SQLSCH
SQLSCC
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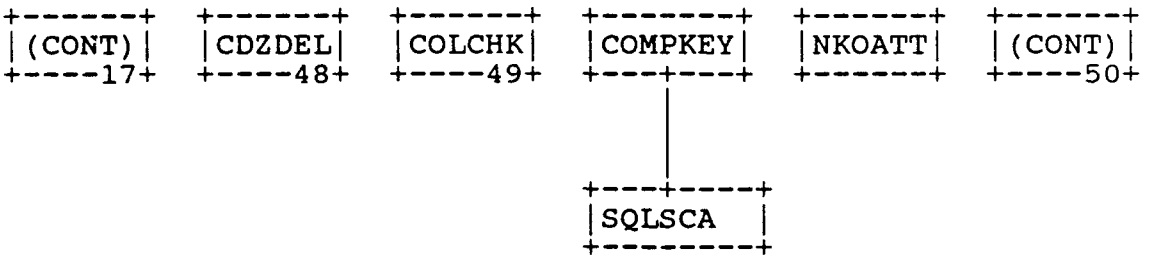
47

32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COMPKEY
NKOATT
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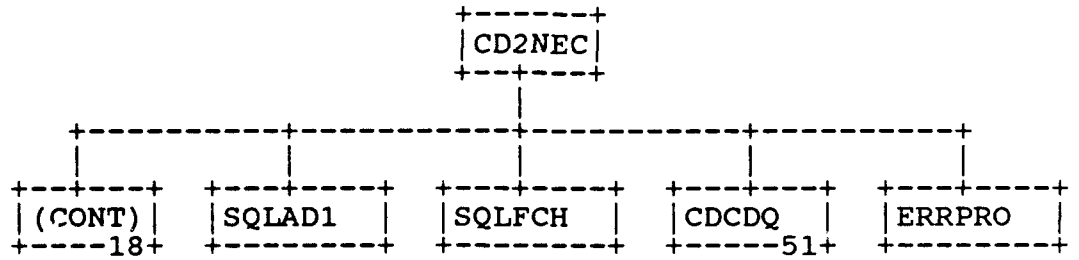
33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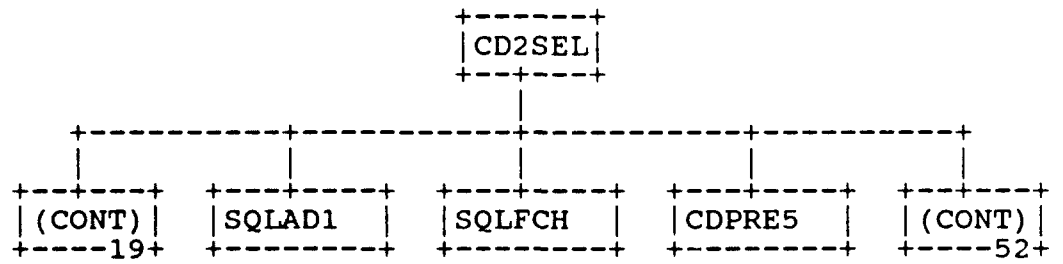
SQLAD1
SQLFCH
CDCDQ
51
ERRPRO

34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SQLAD1
SQLFCH
CDPRE5
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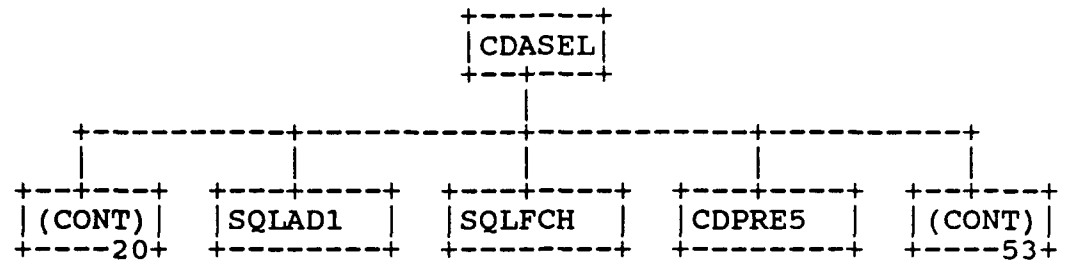
52

35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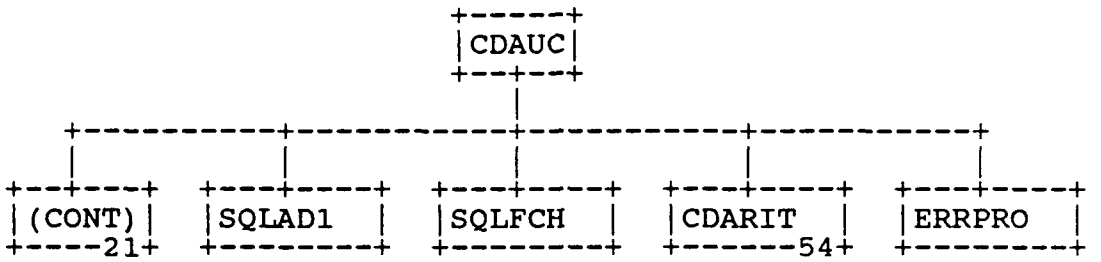
SQLAD1
SQLFCH
CDPRE5
(CONT)
53

36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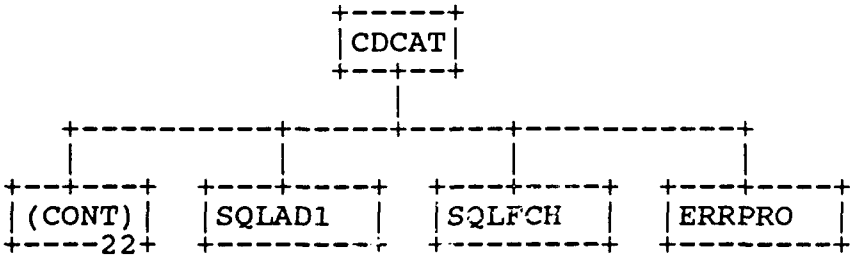
21
SQLAD1
SQLFCH
CDARIT
54
ERRPRO

37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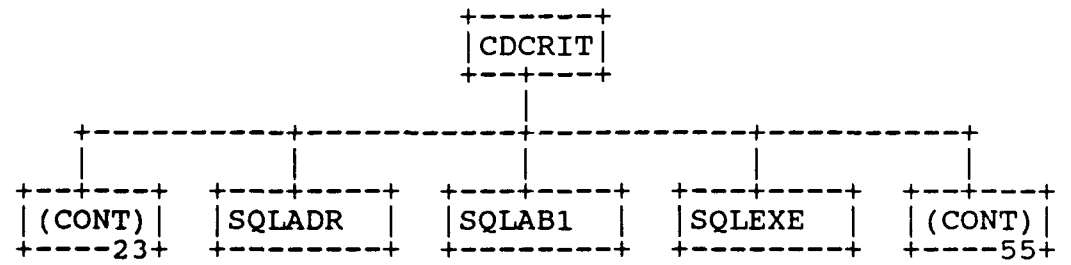
SQLAD1
SQLFCH
ERRPRO

38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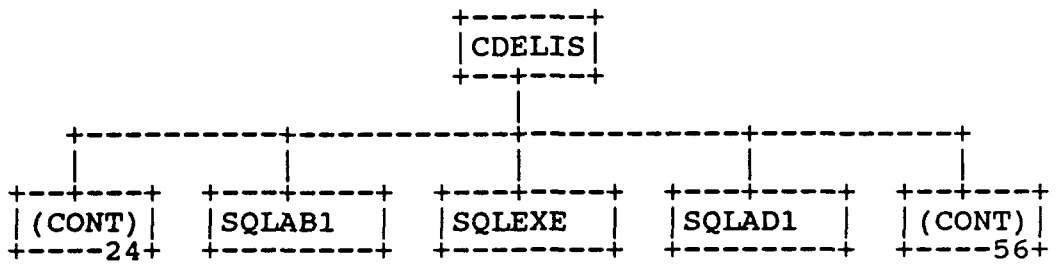
SQLADR
SQLAB1
SQLEXE
(CONT)
55

39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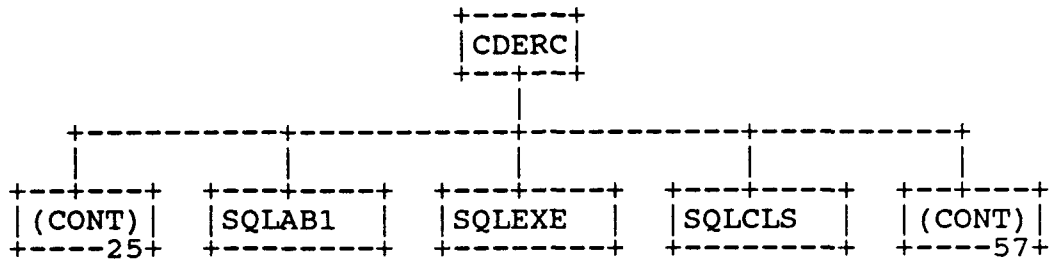
24
SQLAB1
SQLEXE
SQLAD1
(CONT)
56

40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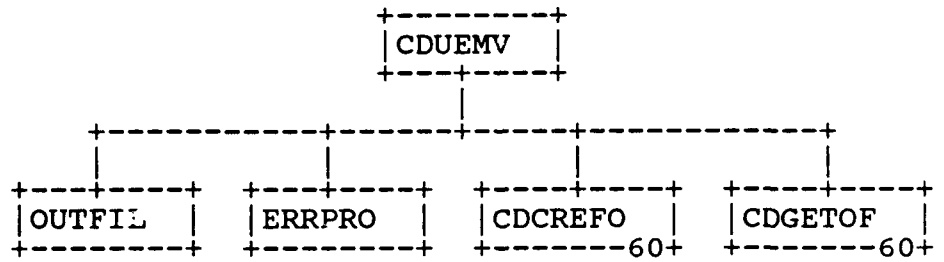
25
SQLAB1
SQLEXE
SQLCLS
(CONT)
57

41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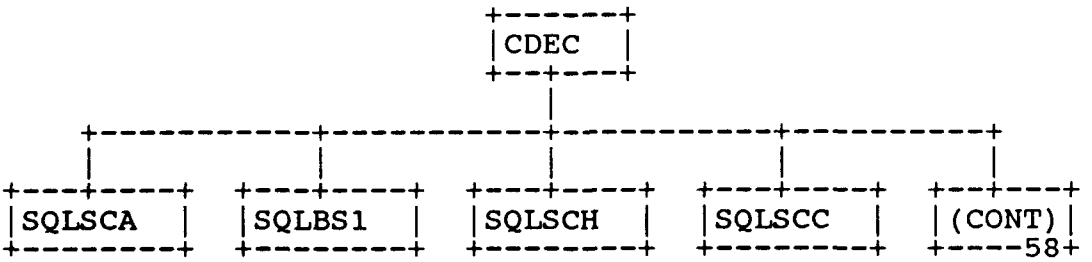
OUTFIL
ERRPRO
CDCREFO
60
CDGETOF
60

42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SQLSCA
SQLBS1
SQLSCH
SQLSCC
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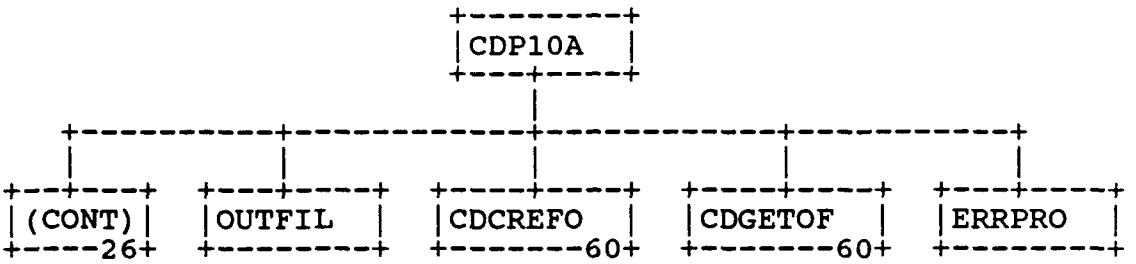
58

43


CDP10A
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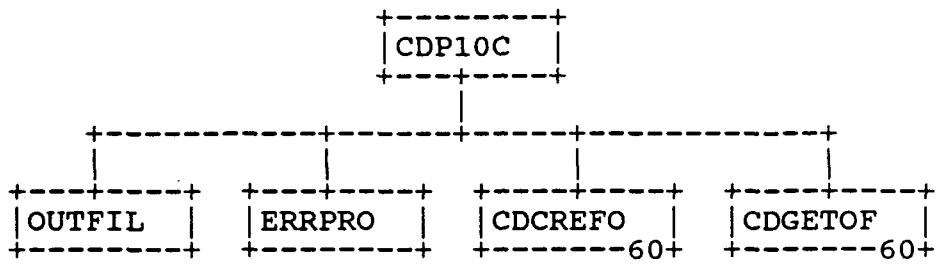
26
OUTFIL
CDCREFO
60
CDGETOF
60
ERRPRO

44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OUTFIL
ERRPRO
CDCREFO
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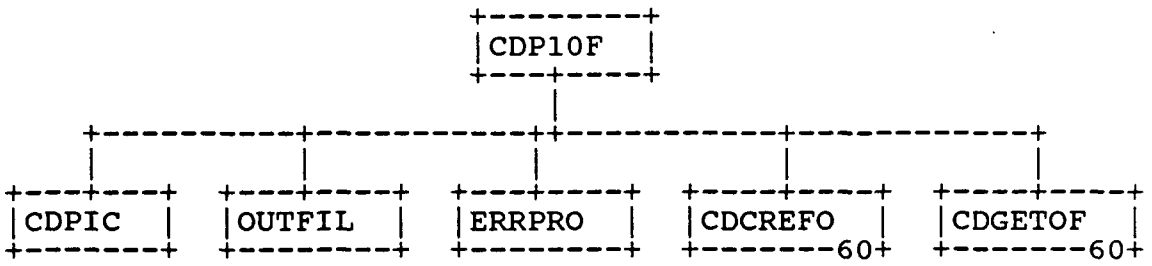
CDGETOF
60

45


CDP10F
CDPIC
OUTFIL
ERRPRO
CDCREFO
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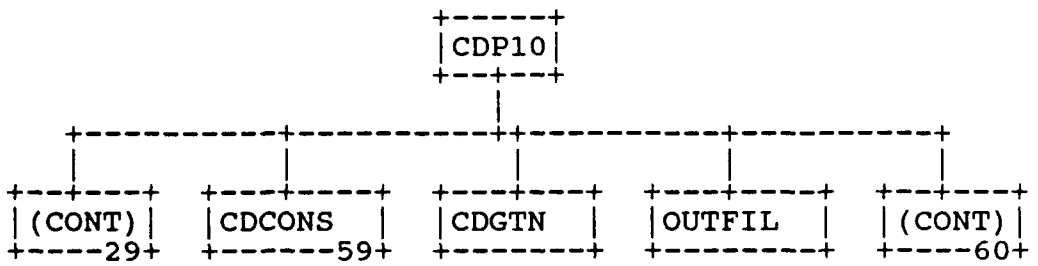
CDGETOF
60

46


CDP10
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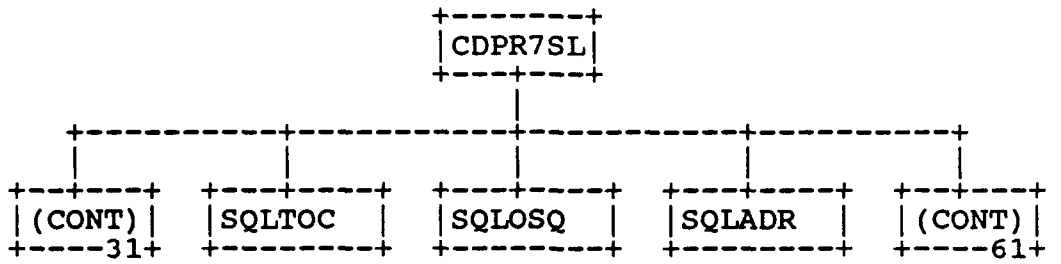
29
CDCONS
59
CDGTN
OUTFIL
(CONT)
60

47


CDPR7SL
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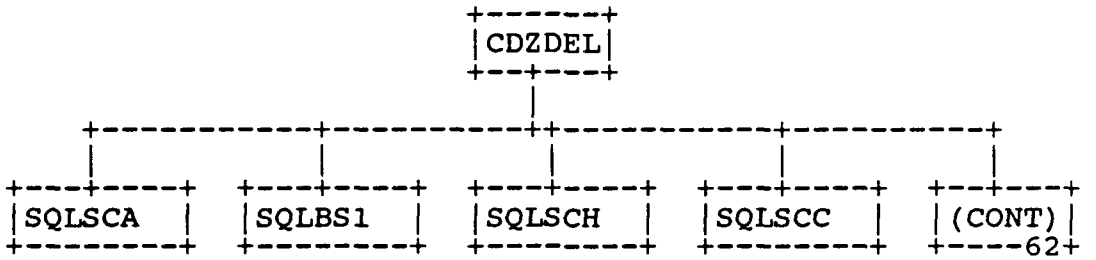
31
SQLTOC
SQLOSQ
SQLADR
(CONT)
61

48


CDZDEL
SQLSCA
SQLBS1
SQLSCH
SQLSCC
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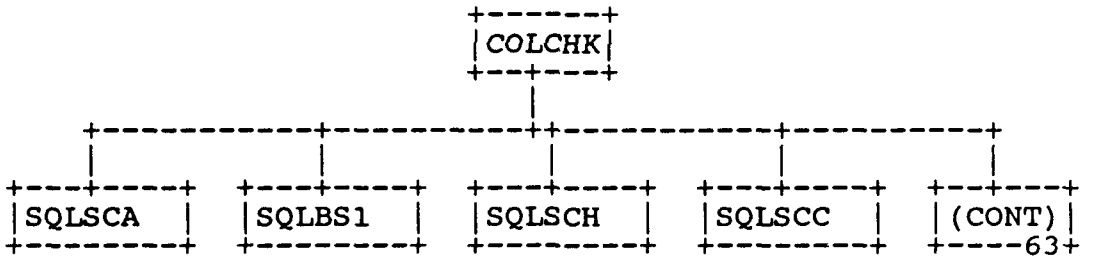
62

49


COLCHK
SQLSCA
SQLBS1
SQLSCH
SQLSCC
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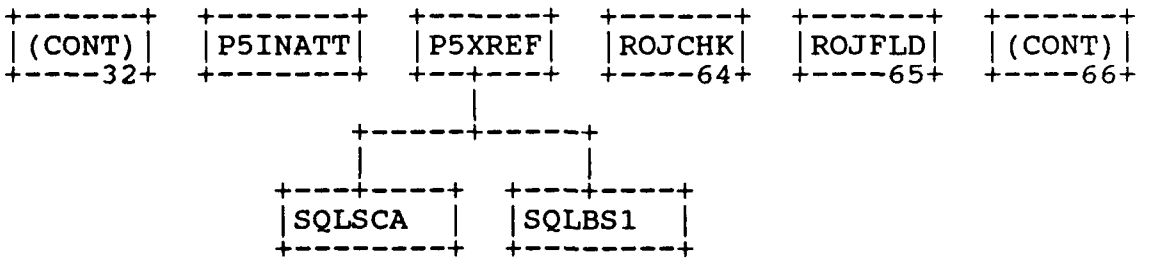
63

50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P5INATT
P5XREF
ROJCHK
64
ROJFLD
65
(CONT)
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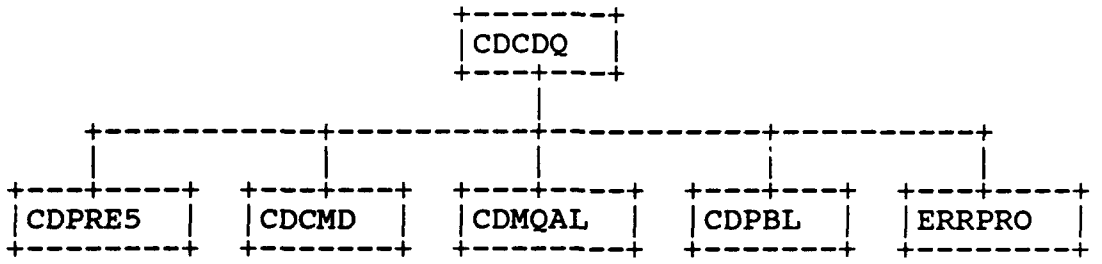
SQLSCA
SQLBS1

51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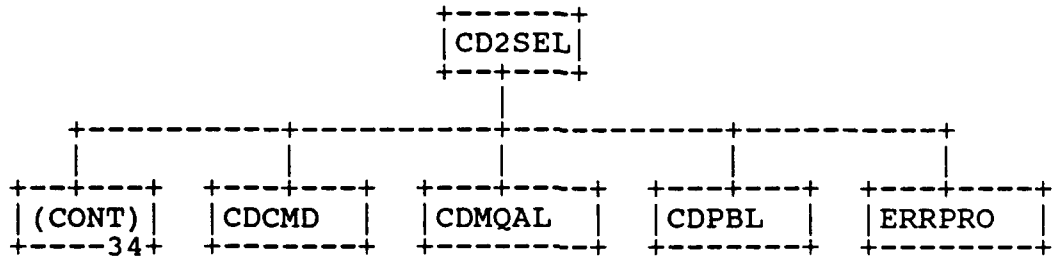
CDPRE5
CDCMD
CDMQAL
CDPBL
ERRPRO

52


CD2SEL
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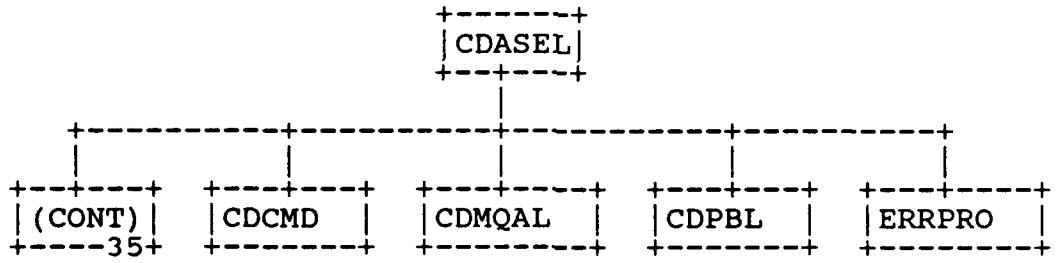
CDCMD
CDMQAL
CDPBL
ERRPRO

53


CDASEL
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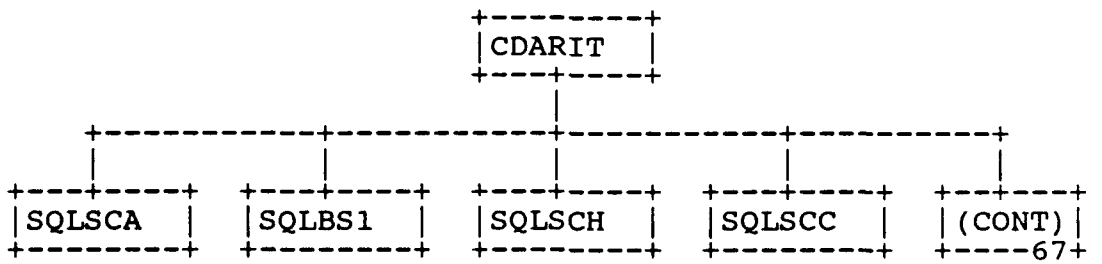
CDCMD
CDMQAL
CDPBL
ERRPRO

54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SQLSCA
SQLBS1
SQLSCH
SQLSCC
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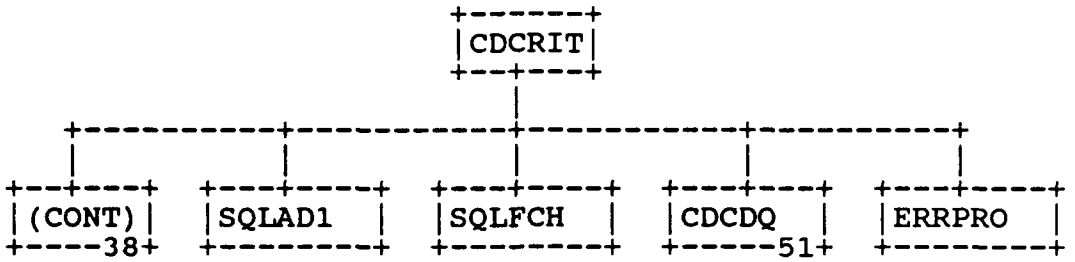
67

55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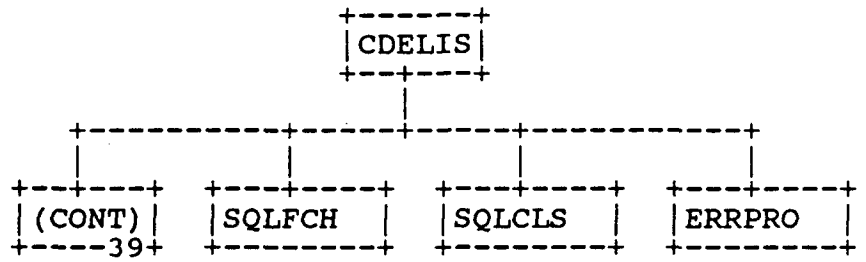
SQLAD1
SQLFCH
CDCDQ
51
ERRPRO

56


CDELIS
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SQLFCH
SQLCLS
ERRPRO

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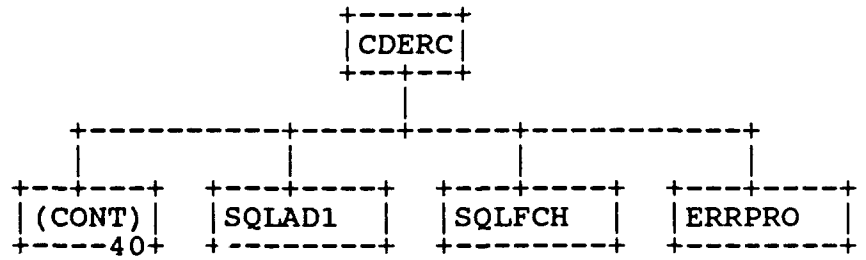
CDERC
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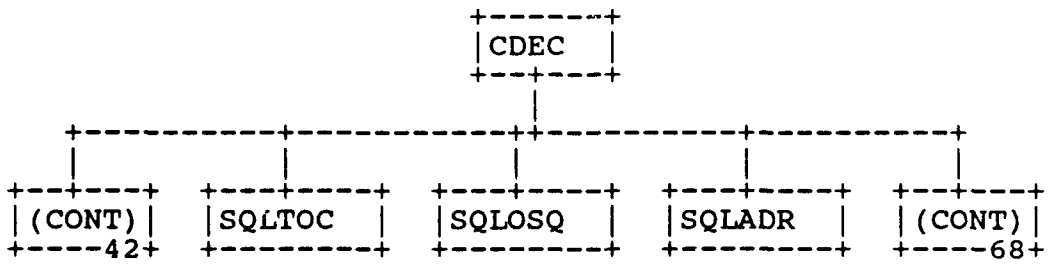
SQLAD1
SQLFCH
ERRPRO

58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42
SQLTOC
SQLOSQ
SQLADR
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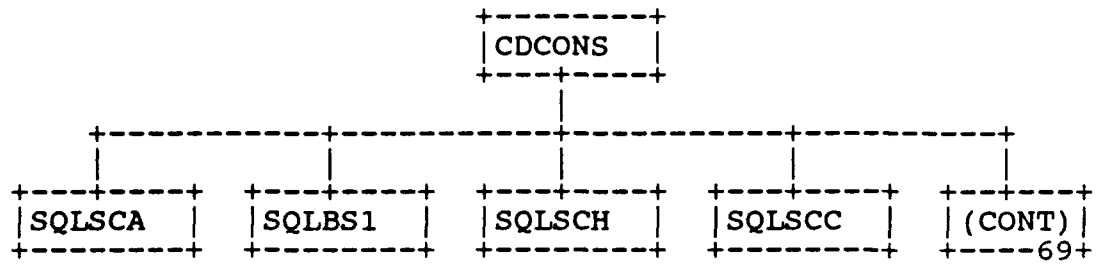
68

59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SQLSCA
SQLBS1
SQLSCH
SQLSCC
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69

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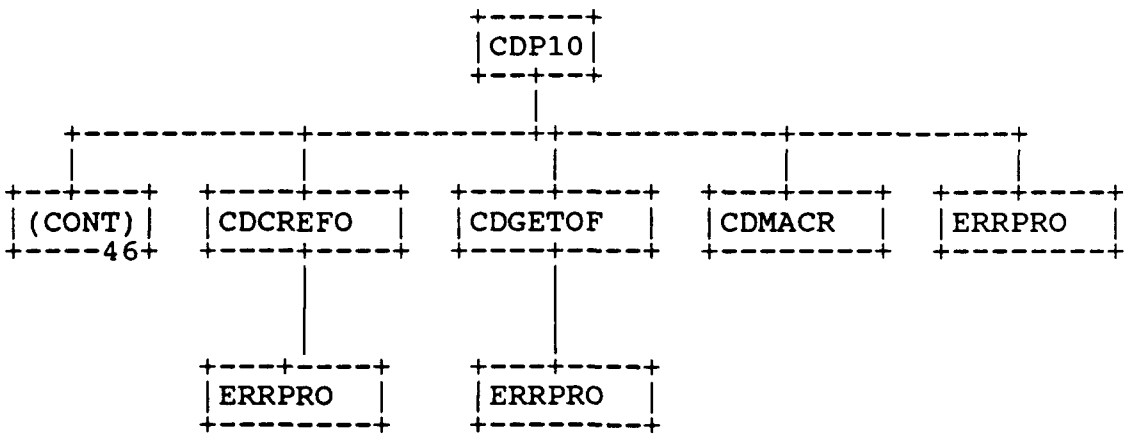
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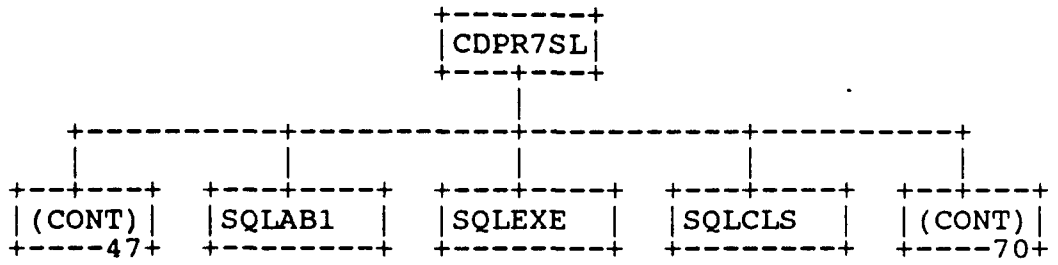
CDCREFO
CDGETOF
CDMACR
ERRPRO
ERRPRO
ERRPRO

61


CDPR7SL
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SQLAB1
SQLEXE
SQLCLS
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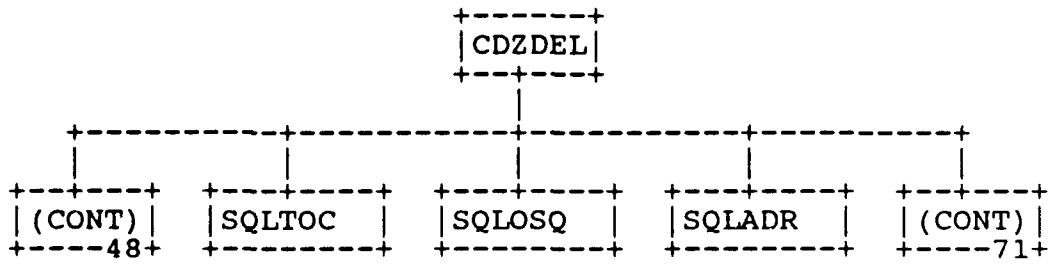
70

62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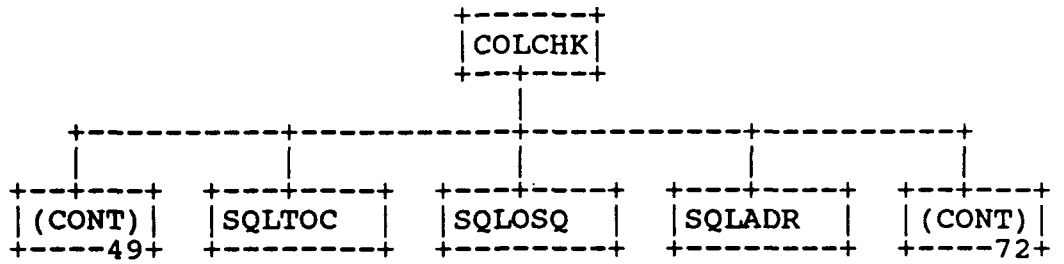
SQLTOC
SQLOSQ
SQLADR
(CONT)
71

63


COLCHK
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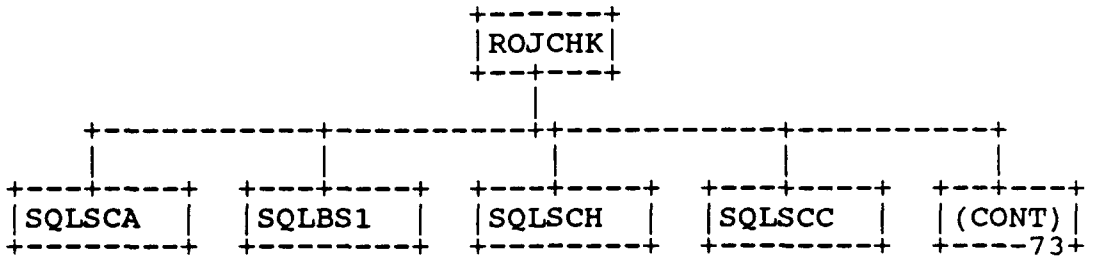
49
SQLTOC
SQLOSQ
SQLADR
(CONT)
72

64


ROJCHK
SQLSCA
SQLBS1
SQLSCH
SQLSCC
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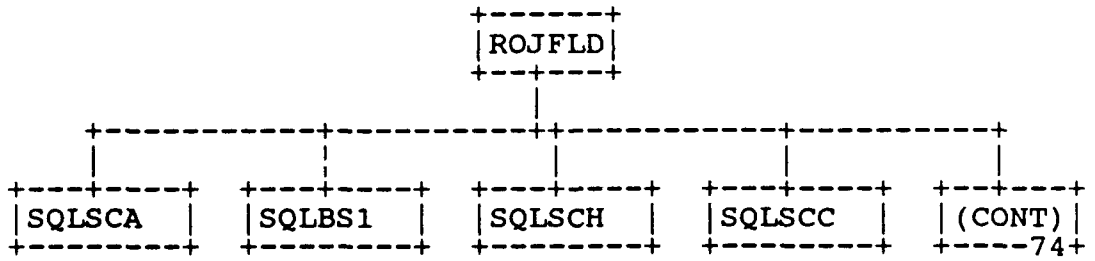
73

65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SQLSCA
SQLBS1
SQLSCH
SQLSCC
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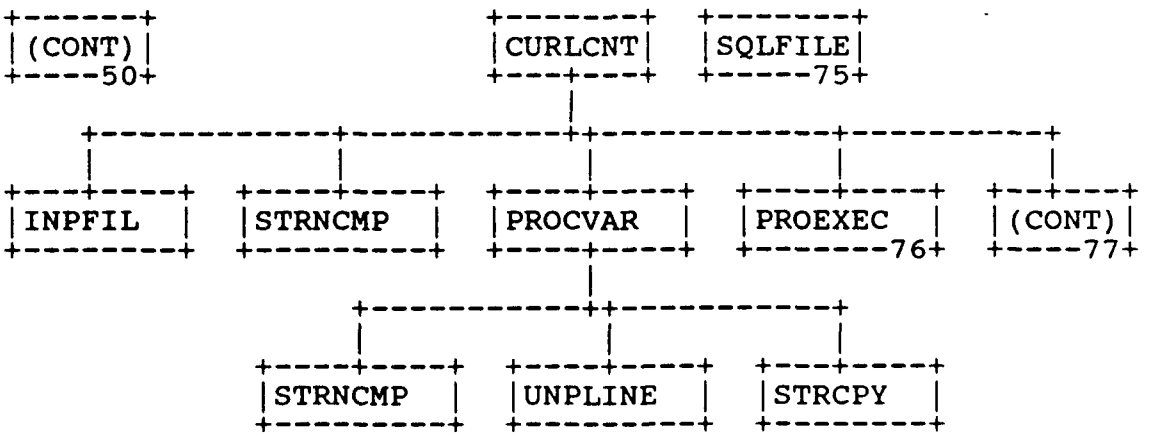
74

66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CURLCNT
SQLFILE
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INPFIL
STRNCMP
PROCVAR
PROEXEC
76
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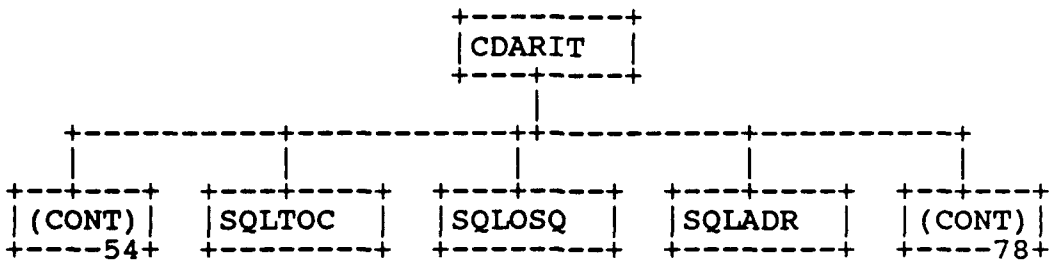
77
STRNCMP
UNPLINE
STRCPY

67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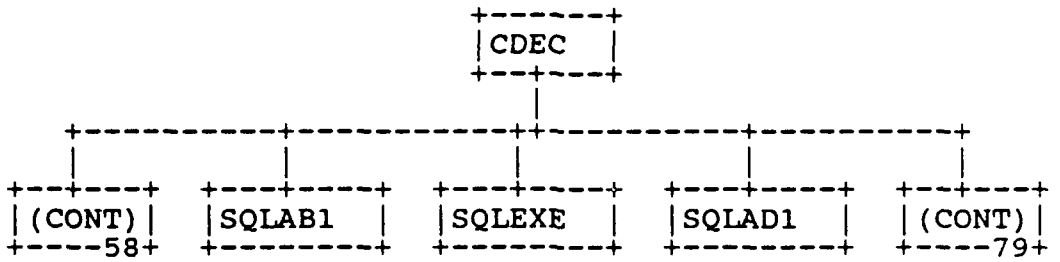
SQLTOC
SQLOSQ
SQLADR
(CONT)
78

68


CDEC
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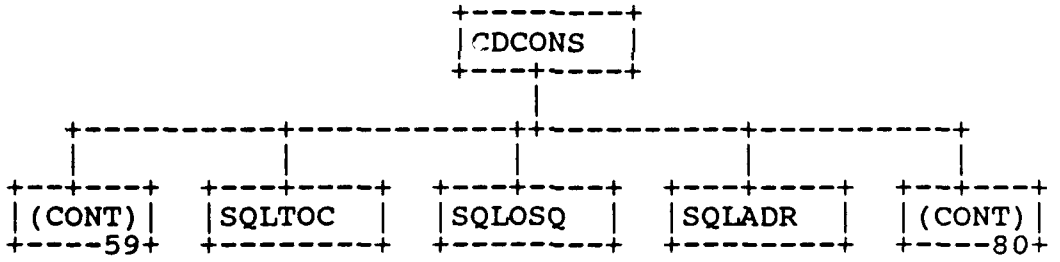
58
SQLAB1
SQLEXE
SQLAD1
(CONT)
79

69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SQLADR
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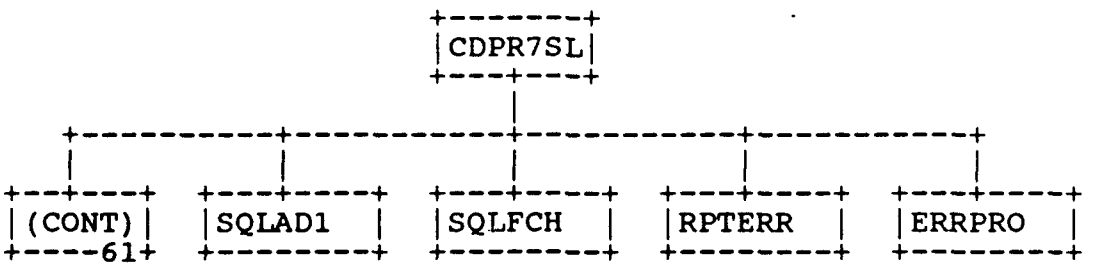
70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ERRPRO

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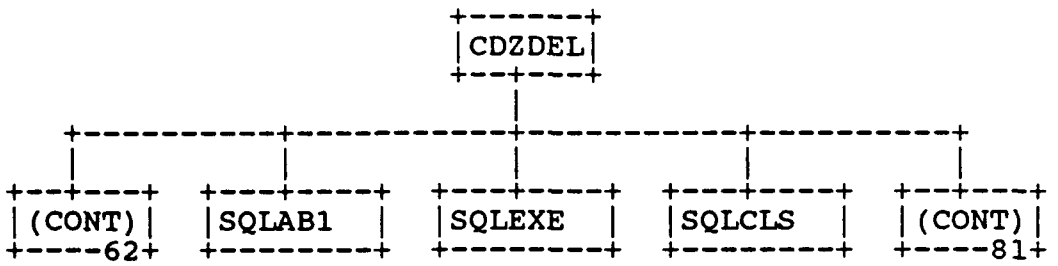
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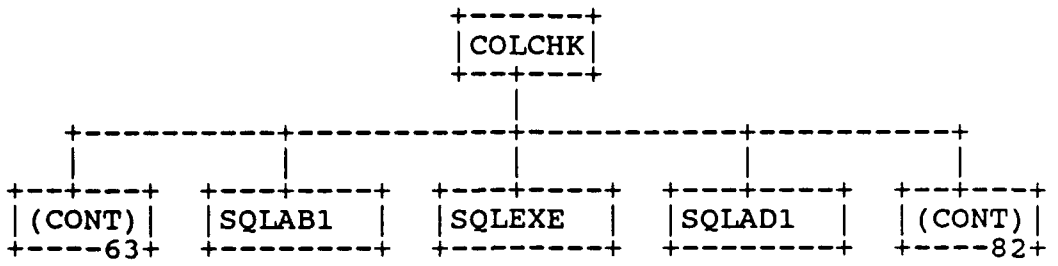
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SQLAD1
(CONT)
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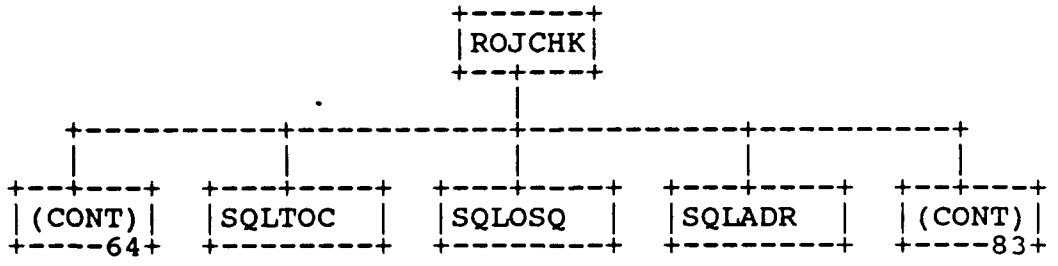
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SQLADR
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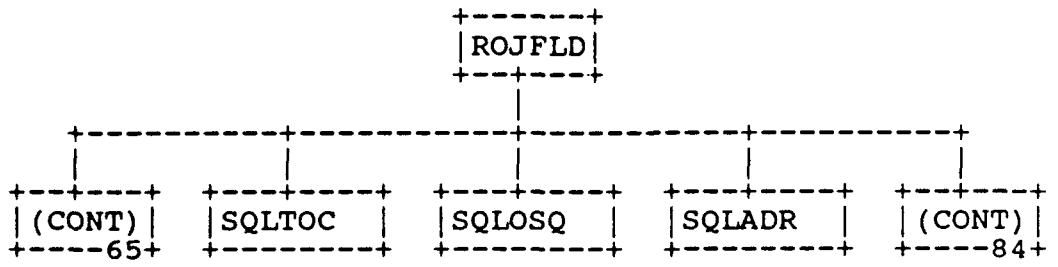
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SQLADR
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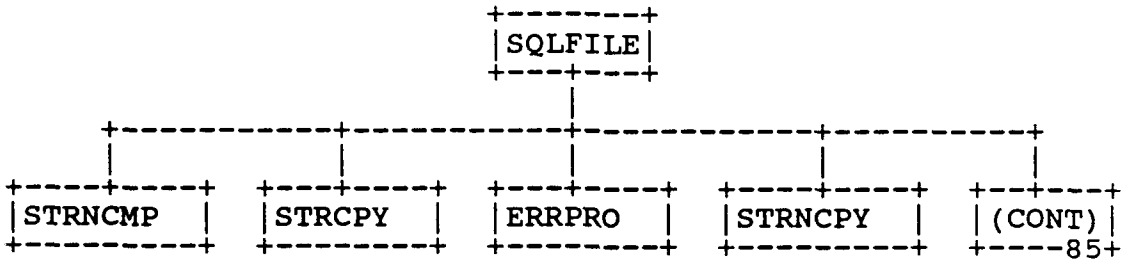
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ERRPRO
STRNCPY
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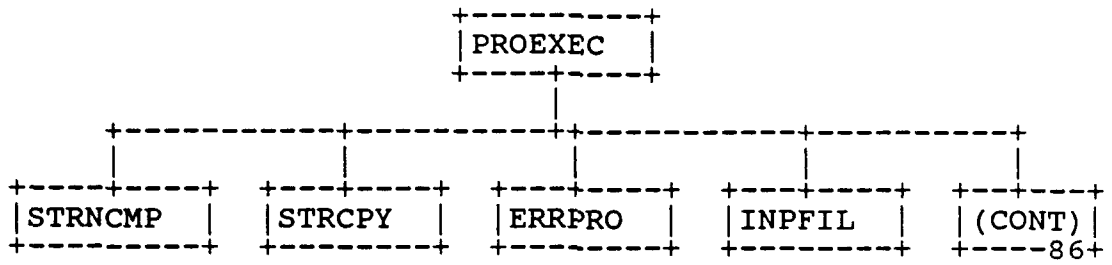
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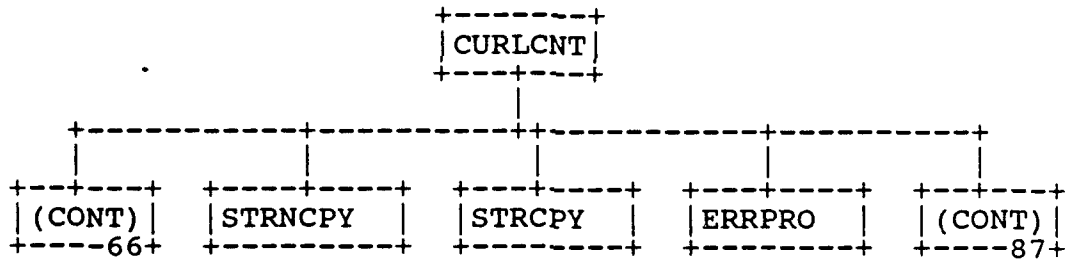
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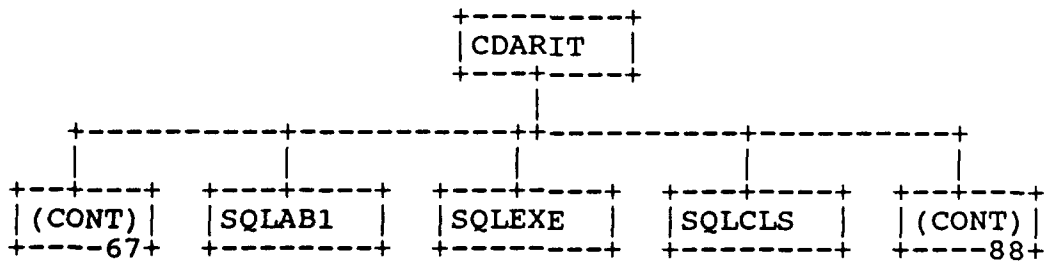
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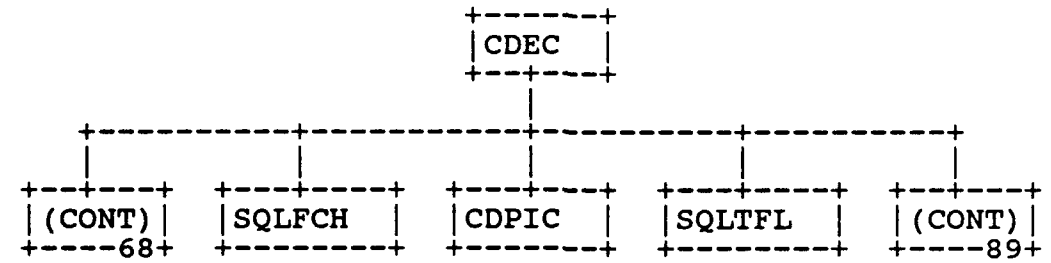
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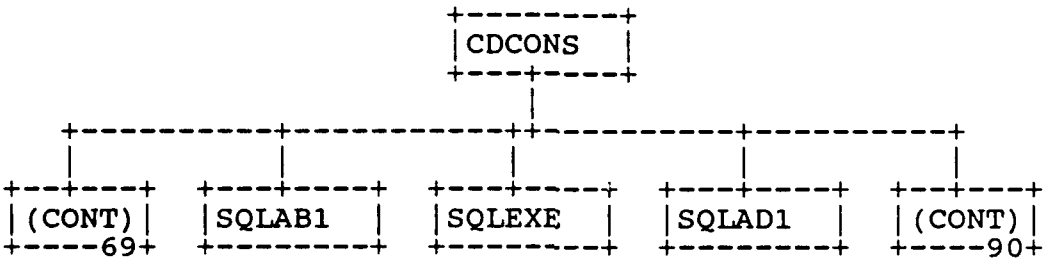
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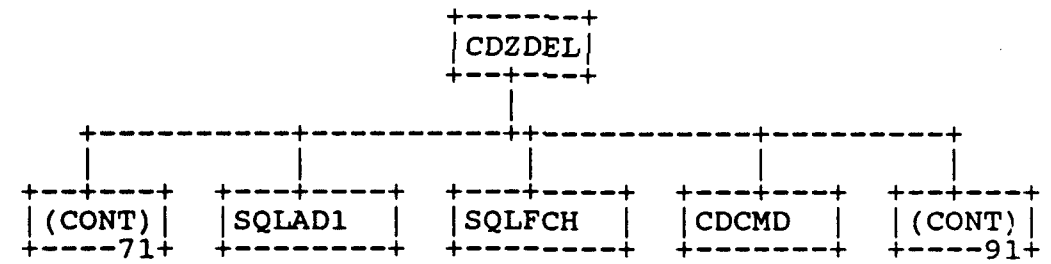
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CDCMD
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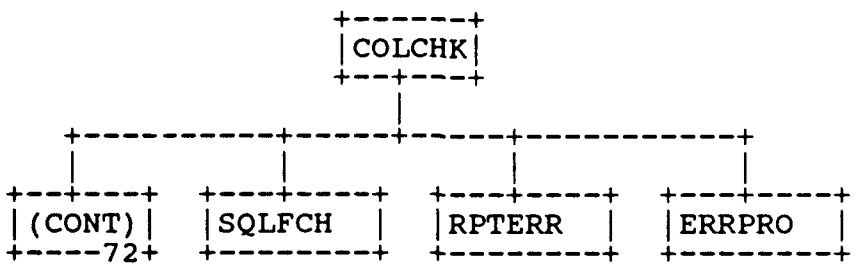
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RPTERR
ERRPRO

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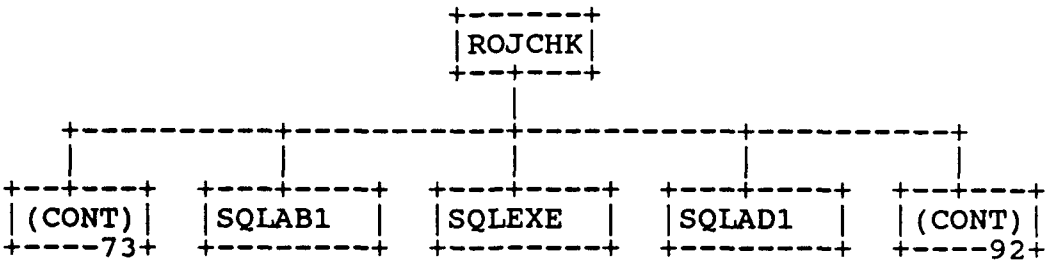
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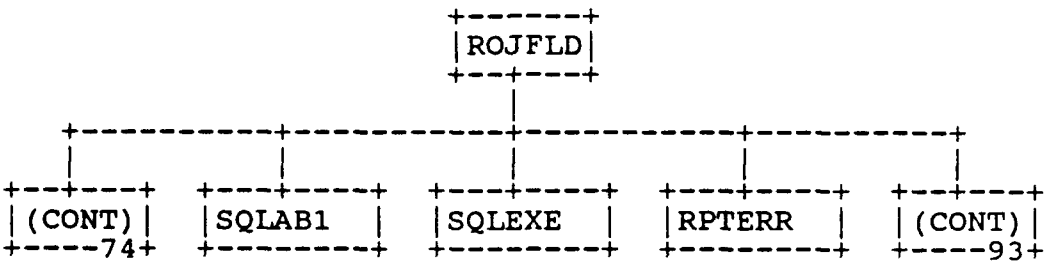
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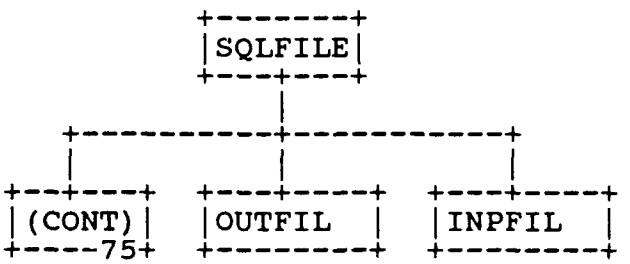
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INPFIL

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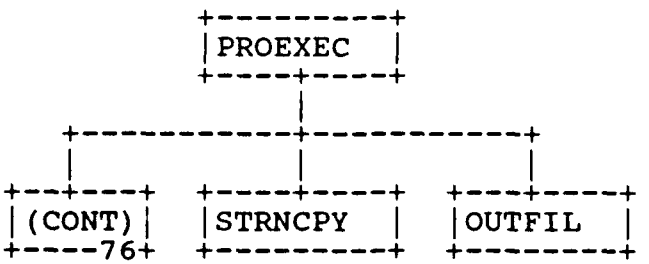
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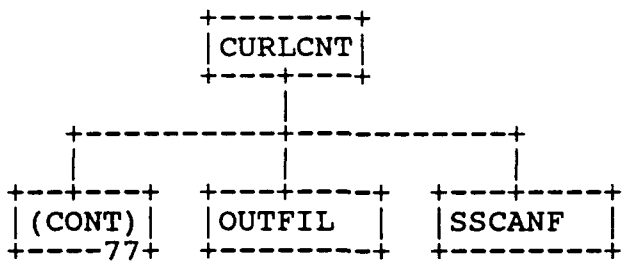
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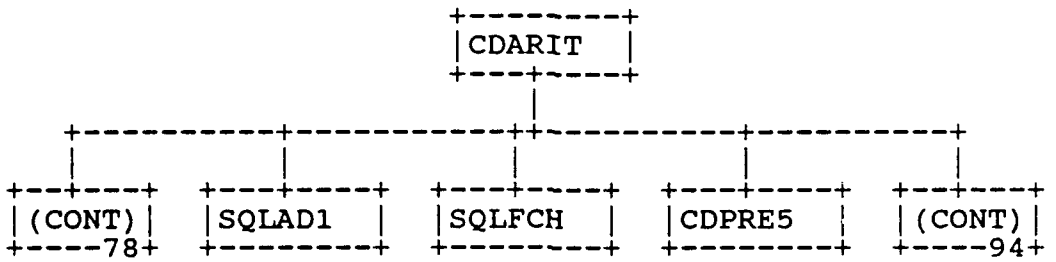
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SQLFCH
CDPRE5
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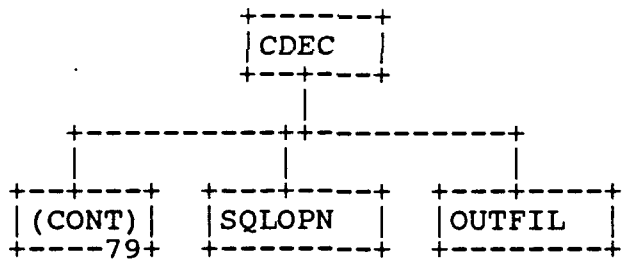
94

89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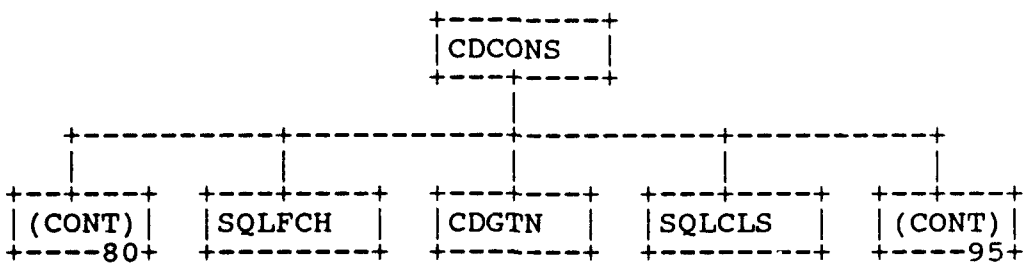
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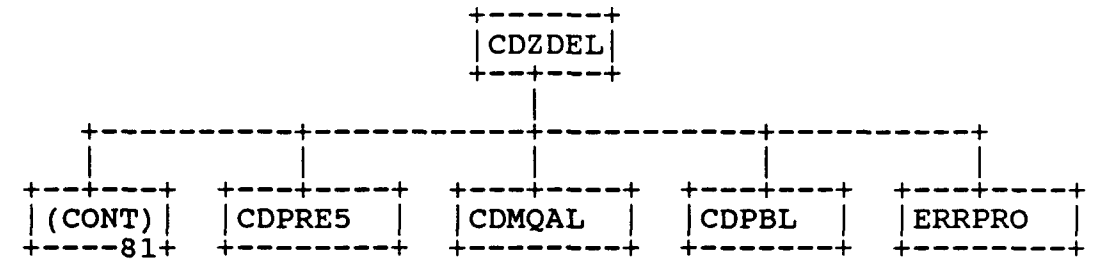
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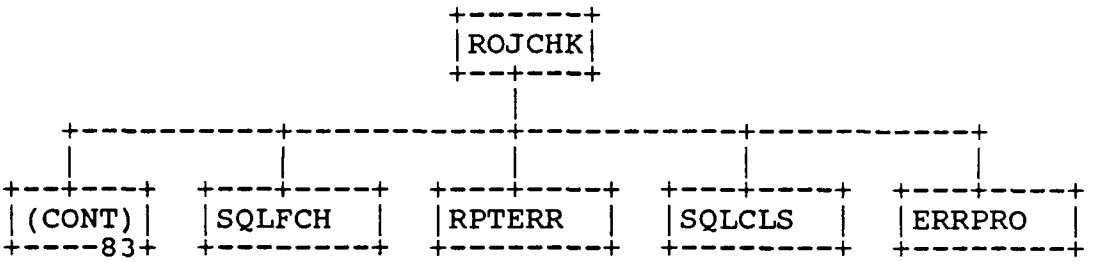
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SQLCLS
ERRPRO

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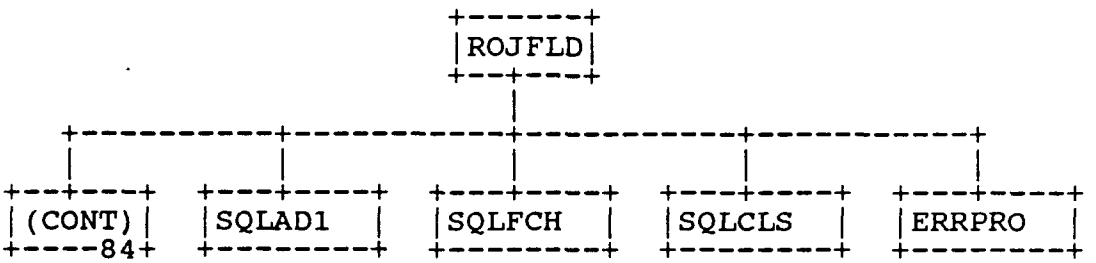
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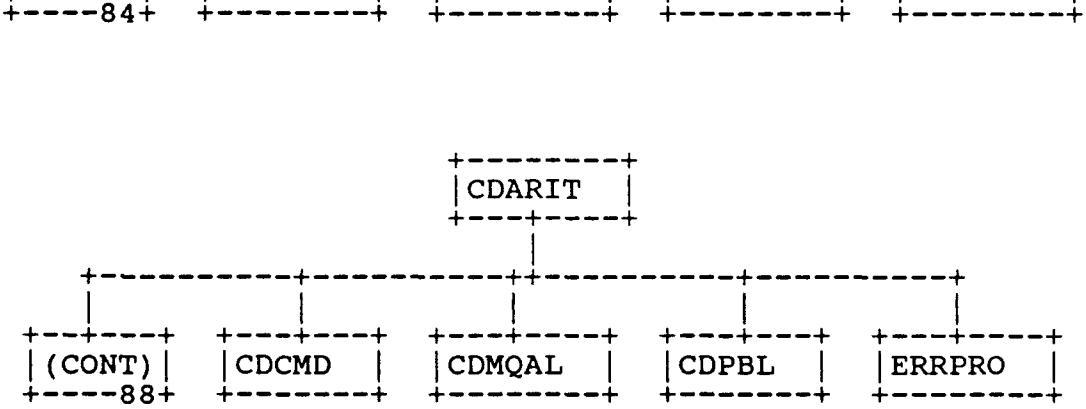
SQLCLS
ERRPRO

94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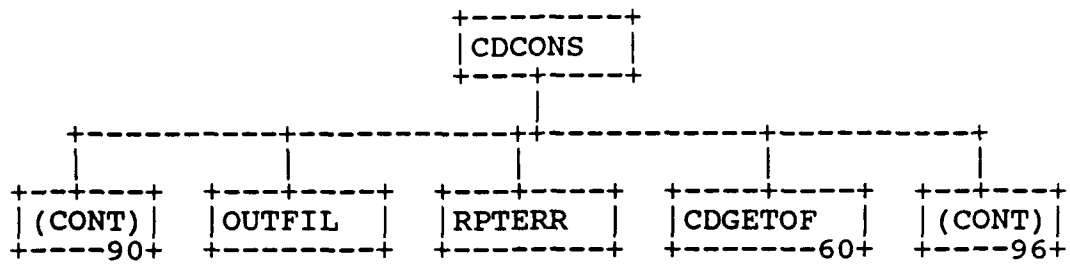

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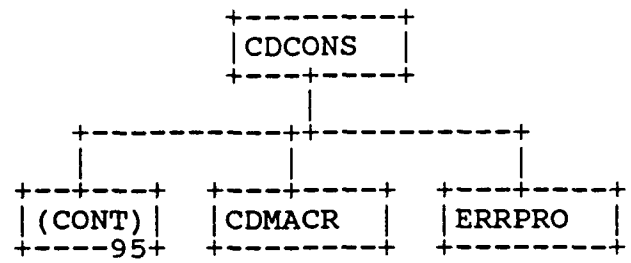

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CDASEL.....4
CDAUC.....5
CDCAT.....6
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CDCMD
CDCONS 59
CDCREFO ...60
CDCRIT.....13
CDDBMSS
CDEC 42
CDECWS 26
CDELIS.....14
CDERC.....15
CDF1RP
CDGETOF ...60
CDGTN
CDINSLW
CDLKLUW
CDMACR
CDMQAL
CDP10.....16
CDP10A 26
CDP10B 27
CDP10C 44
CDP10E 28
CDP10F 45
P5INATT
P5XREF.....50
PROCVAR ...66
PROEXEC ...76
ROJCHK.....64
ROJFLD.....65
RPTERR
SQLAB1
SQLAD1
SQLADR
SQLBS1
SQLCLS
SQLEXE
SQLFCH
SQLFILE.....75
SQLOPN
SQLOSQ
SQLSCA
SQLSCC
SQLSCH
SQLTFL
SQLTOC
SSCANF
STRCPY
STRNCMP
STRNCPY
UNPLINE

CDP10S 29
CDP10T.....30
CDPBL
CDPIC
CDPR7SL.....31
CDPRE5
CDPRF8
CDUEMV 41
CDVERLW.....17
CDZDEL.....48
COLCHK.....49
COMPKEY.....32
CURLCNT.....66
ERRPRO
[illegible]PFIL
NKOATT
OUTFIL

3.11 Program Listings Comments

This information is contained in the Module Descriptions in section 3.10.

SECTION 4

QUALITY ASSURANCE PROVISIONS

4.1 Introduction and Definitions

"Testing" is a systematic process that may be preplanned and explicitly stated. Test techniques and procedures may be defined in advance, and a sequence of test steps may be specified. "Debugging" is the process of isolation and correction of the cause of an error.

"Antibugging" is defined as the philosophy of writing programs in such a way as to make bugs less likely to occur and when they do occur, to make them more noticeable to the programmer and the user. In other words, as much error checking as is practical and possible in each routine should be performed.

4.2 Computer Programming Test and Evaluation

The quality assurance provisions for test consists of the normal testing techniques that are accomplished during the construction process. They consist of design and code walk-throughs, unit testing, and integration testing. These tests are performed by the design team. Structured design, design walk-through and the incorporation of "antibugging" facilitate this testing by exposing and addressing problem areas before they become coded "bugs."